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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

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Vol. 1, No. 1 September 1985

NOTICE TO READERS

This is the first issue of a regular publication from the Bureau of Communicable Disease Control in the San Francisco Department of Public Health. The Bulletin will be mailed on a monthly basis to all physicians, professionals, and organizations concerned with infectious diseases. Please direct all correspondence to the Bureau at the address below.

REMINDER

Health providers are encouraged to protect seniors and chronically ill persons from the complications of influenza by administering vaccine during the months of September and October. For more information, call 558-4046.

A FOOD-BORNE OUTBREAK OF HEPATITIS A

Toward the end of March 1985, the Bureau of Communicable Disease Control was notified by a UCSF pediatric resident that a 16 year old male was under evaluation with a presumptive diagnosis of hepatitis A. His onset date was 3/22/85. Discussion with the individual revealed that he knew of two more probable cases of hepatitis within his group of acquaintances. One suspected case was a 16 year old female with onset date of 3/22/85, and the other a 32 year old male with onset of 3/15/85.

The adult and two youths were members of a special educational class in a San Francisco high school, composed of 30 students and 6 adult counselors. This special class emphasized practical community experience which included assisting in convalescent homes and soup kitchens.

The entire class and the 6 counselors had taken a two week camping trip in the Los Padres National Forest in Monterey County from 2/18/85 to 3/1/85. The food consumed while camping was obtained from regular commercial sources. Students and counselors were responsible for preparing food on an assigned basis. Consequently, every member of the group handled food for communal consumption at some time during the trip. Water was taken from the forest streams and purified with iodine tablets. It could not be determined how many in the group drank water directly from the stream.

As the investigation progressed, a 17 year old female member of the class was diagnosed with hepatitis A. The onset of symptoms in this patient was 3/20/85. All four identified patients had been found to have IgM antibody against hepatitis A.

Questioning of students and counselors revealed that one 15 year old male had become ill with fever and malaise, and also had dark urine during the time that the group was camping. His date of onset was 2/23/85, the fifth day of the camping trip, and 27 days before the appearance of the first case on 3/22/85. He had mixed raw vegetables for a salad that was served to the group on 2/18/85. This person was most likely the index case responsible for introduction of the infection to the group, as further supported by a positive IgM test result.

One week after returning from camp, many students participated in a community service program. They helped to distribute food (cookies and grapes) in several convalescent homes, as well as other foods in a soup kitchen for the homeless. As the cookies had been wrapped in cellophane, and the students wore gloves while working in the kitchen and handling food, it was determined that no significant exposure had occurred, and no futher action was taken for the food recipient groups.

SUMMARY: A total of four out of a group of 36 students and counselors developed clinically manifest hepatitis A following a camping trip in a National Forest. The infection was introduced by a 15 year old male who became symptomatic a few days after the group arrived at the camp site. While ill he prepared salad with raw vegetables. This activity was determined to be the likely cause of the spread of infection to the other four cases. To prevent secondary spread among the rest of the group and their family members, immune globulin was offered to the students, counselors, and their immediate household contacts. No further cases of hepatitis occurred in this group or in their contacts. No cases occurred during the same period in Monterey County which could be traced to the campground in the National Forest.

Prompt reporting of this outbreak permitted the health department to act immediately: to investigate, and to take necessary steps to prevent further spread.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING August 31, 1985

DISEASE	CASES REPORTED WEEKS 32 THROUGH 35			TOTAL CASES REPORTED TO DATE			
	1983	1984	1985	1983	1984	1985	
AIDS	23	37	64	66	309	509	
AMEBIASIS	62	57	50	741	477	565	
CAMPYLOBACTER	23	30	52	205	189	348	
COCCIDIOIDOMYCOSIS	–	0	–	–	1	–	
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	32	68	114	348	559	553	
GIARDIASIS	9	16	58	107	145	383	
GONORRHEA	644	772	626	6815	5661	5036	
HEPATITIS Type A	25	6	12	181	59	120	
HEPATITIS Type B	18	33	12	231	186	142	
HEPATITIS Non A-Non B	3	3	1	51	33	18	
HEPATITIS Type Unspecified	7	2	2	68	17	14	
LEPROSY	0	–	1	5	–	51	*
MALARIA	3	4	–	16	32	21	
MEASLES	1	0	–	8	15	–	
MENINGITIS, BACTERIAL	0	0	5	9	2	5	
MENINGITIS, VIRAL	0	0	0	5	7	12	
MUMPS	–	2	1	–	10	8	
PERTUSSIS	–	1	2	–	2	2	
PSITTACOSIS	1	–	0	1	–	4	
RUBELLA	0	–	0	5	–	4	
SALMONELLOSIS	34	19	21	125	124	136	
SHIGELLOSIS	32	33	42	337	286	256	
SYPHILIS, Total	151	113	74	1385	976	674	
SYPHILIS, Primary & Secondary	96	61	40	791	555	361	
TUBERCULOSIS (all forms)	18	16	24	196	177	190	
TYPHOID FEVER	0	0	1	3	6	7	
Total deaths reported this period		586	646		5476	5930	
Deaths from pneumonia this period		14	22		181	225	

* Figure represents tabulation of old reports

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Vol. 1, No. 2 October 1985

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AIDS IN SAN FRANCISCO: THE FIRST 1,000 CASES

One thousand cases of AIDS and 495 (50%) deaths from AIDS were reported to the San Francisco Department of Public Health between July 1, 1981, and March 5, 1985. This represents an overall incidence of 147.3 cases per 100,000 population. The distribution of these 1,000 cases by month of diagnosis is shown in Figure 1. The median survival from diagnosis to death was 12 months.

Nine hundred ninety-two (99%) patients were male (male to female ratio 124:1), and 915 (91%) of the men were in the 20-49 year old age group with an incidence of 520.0 cases per 100,000. Eight hundred ninety-one (89%) were white, 46 (5%) black, 57 (6%) Hispanic, and 4 (<1%) Asian or Pacific Islander. Eight hundred ninety-one (89%) resided in San Francisco at the time of diagnosis, 86 (9%) were from other Bay Area counties, and 5 were from out-of-state. Cases in San Francisco tended to cluster in areas of the City with large gay male populations (Figure 2).

The distribution of cases by CDC hierarchical diagnosis and probable mode of HTLV-III/LAV acquisition is shown in Table 1. One hundred thirty-eight gay and bisexual men had other risk factors: 131 (13%) were also intravenous drug users, 6 (1%) had received blood transfusions since 1978, and 1 (<1%) had haemophilia. The distribution of primary ("A1") diagnoses is shown in Table 2. Over 90 percent of patients presented with either Pneumocystis carinii pneumonia or Kaposi's sarcoma.

Three of these 1,000 cases involved children. Two of these had a mother at increased risk for AIDS, and the third had been transfused before the onset of illness.

Editorial note: Nearly all cases of AIDS reported in San Francisco are among gay and bisexual men, suggesting that sexual transmission is the primary mode of HTLV-III/LAV spread in the City. This is dissimilar to the United States distribution as a whole, where approximately 73 percent of cases involve gay and bisexual men and 17 percent involve intravenous drug users (1). It is unclear why more cases of parenterally and perinatally transmitted AIDS have not occurred in San Francisco to date, and it should be expected that HTLV-III/LAV will eventually spread to heterosexual intravenous drug users.

The citywide incidence of AIDS, 147.3 cases per 100,000, is approximately 47 times higher than that for the rest of the United States during the same time period. Within San Francisco itself, the incidence among all men 20 to 49 years old, 520.0 cases per 100,000, is significantly higher than that for all other men (53.1 per 100,000, $p < .001$) and that for all other men and women (18.7 per 100,000, $p < .001$). More accurate incidence estimates for gay men in San Francisco have been calculated using the population of single never-married men in contiguous high-incidence census tracts as the denominator (2,3). These incidence estimates were 287 cases per 100,000 when the total number of cases was 287 (2) and 770 cases per 100,000 when the total number of cases was 370 (3).

References

1. CDC. Update: acquired immunodeficiency syndrome (AIDS)-United States. MMWR 1984; 33: 661-4.

2. Moss AR, Bachetti P, Gorman M, et al. AIDS in the "gay" areas of San Francisco. Lancet 1983; 1:923-4.

3. Moss AR, Bachetti P, Osmond D, et al. Incidence of the acquired immunodeficiency syndrome in San Francisco, 1980-1983. J Infect Dis 1985; 152: 152-61.

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Figure 1. AIDS Cases by Month of Diagnosis, First 1,000 Cases, San Francisco, 1981-1985

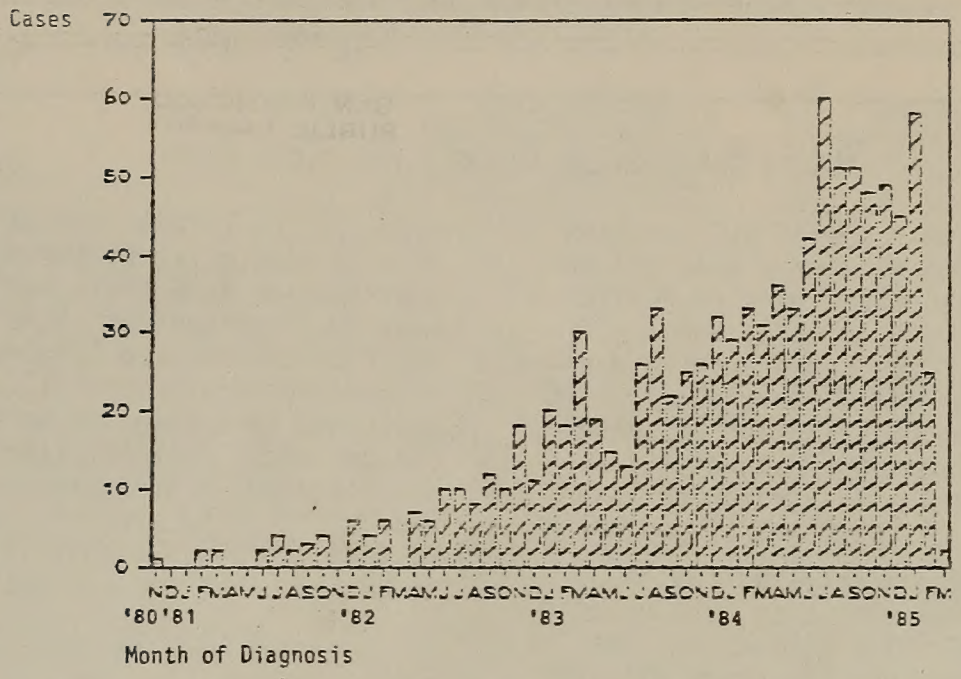

Figure 2. AIDS Cases by Census Tract of Residence, First 1,000 Cases, San Francisco, 1981-1985

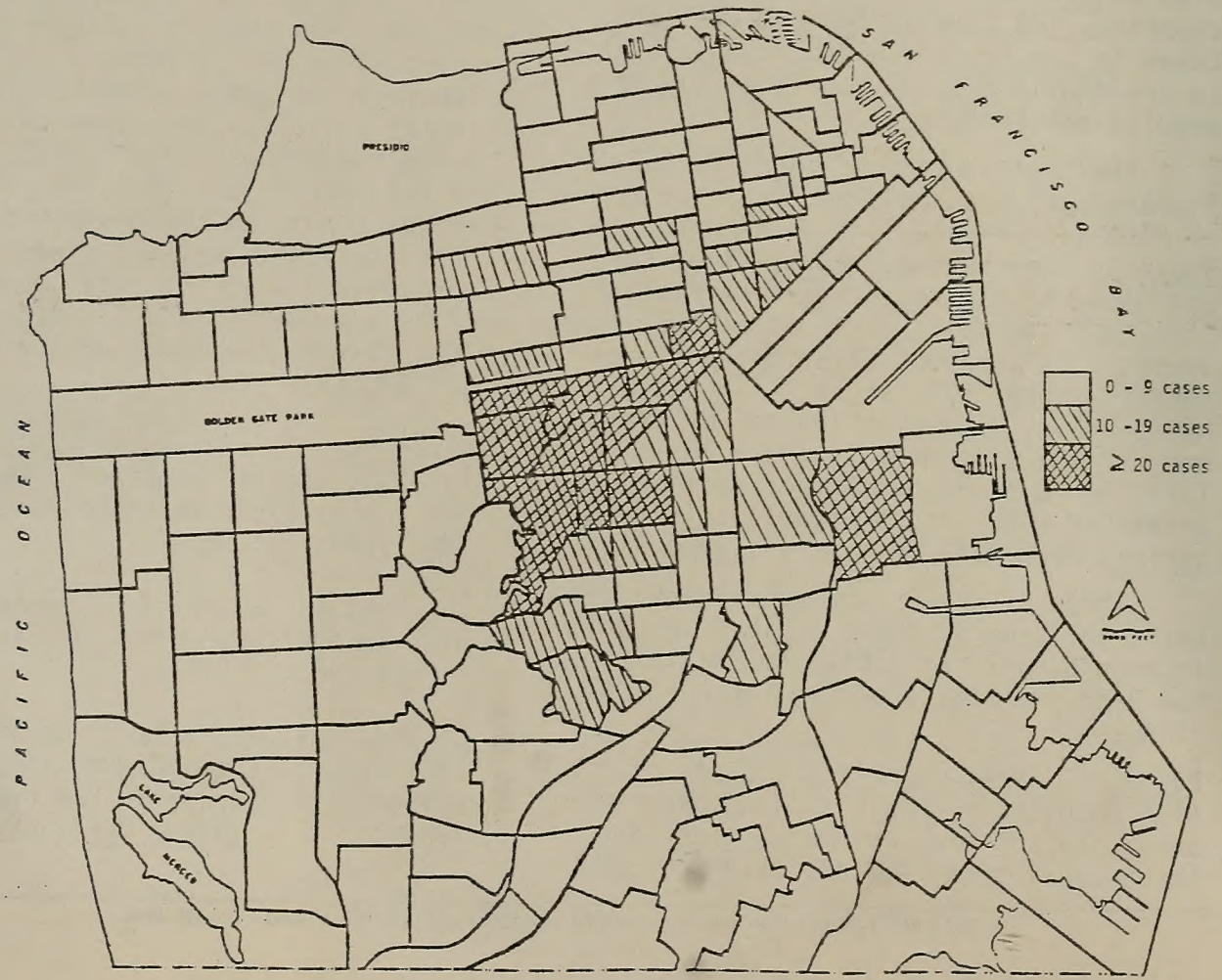

Table 1. AIDS Cases by Hierarchical Risk Group and Probable Mode of HTLV-III/LAV Acquisition, First 1,000 cases, San Francisco, 1981-1985

Acquisition	Risk Group	N	Total (%)
Sexual	Homosexual men	941	
	Bisexual men	41	
	Heterosexual contacts of persons in other risk groups	3	985 (99%)
Parenteral	Intravenous drug users	6	
	Blood transfusion recipients	3	9 (1%)
Perinatal	Children of mothers in risk groups	2	2 (<1%)
Unknown	No identified risk group*	4	4 (<1%)
			1,000

* Includes 1 Haitian

Table 2. AIDS Cases by Primary Diagnosis, First 1,000 Cases, San Francisco, 1981-1985

Primary Diagnosis	N	(%)
Pneumocystis carinii pneumonia	512	(51.2%)
Kaposi's sarcoma	404	(40.4%)
Disseminated Cryptococcal infection	17	(1.7%)
Cryptosporidiosis	14	(1.4%)
Cytomegalovirus infection	13	(1.3%)
Toxoplasmosis	11	(1.1%)
Disseminated Candidiasis	11	(1.1%)
Mycobacterium avium-intracellulare infection	8	(0.8%)
Progressive multifocal leukoencephalopathy	4	(0.4%)
Cerebral lymphoma	4	(0.4%)
Disseminated Herpes simplex virus infection	2	(0.2%)
Total	1,000	

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING Sep 28, 1985

DISEASE	CASES REPORTED WEEKS 36 THROUGH 39			TOTAL CASES REPORTED TO DATE		
	1983	1984	1985	1983	1984	1985
AIDS	9	43	59	75	352	568
AMEBIASIS	60	83	40	801	560	605
CAMPYLOBACTER	17	51	34	222	240	382
COCCIDIOIDOMYCOSIS	–	–	1	–	1	1
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	75	50	58	423	609	611
GIARDIASIS	12	35	28	119	180	411
GONORRHEA	678	754	570	7493	6415	5578
HEPATITIS Type A	22	4	13	203	63	133
HEPATITIS Type B	8	22	10	239	208	152
HEPATITIS Non A-Non B	8	3	4	59	36	22
HEPATITIS Type Unspecified	6	–	1	74	17	15
LEPROSY	–	–	1	5	–	52
MALARIA	3	1	1	19	33	22
MEASLES	–	–	1	8	15	1
MENINGITIS, BACTERIAL	–	–	–	9	2	5
MENINGITIS, VIRAL	1	1	5	6	8	17
MUMPS	–	1	–	–	11	8
PERTUSSIS	–	–	–	–	2	2
PSITTACOSIS	–	–	–	1	–	4
RUBELLA	–	–	1	5	–	5
SALMONELLOSIS	28	13	23	153	137	159
SHIGELLOSIS	52	42	5	389	328	276
SYPHILIS, Total	122	90	51	1507	1066	724
SYPHILIS, Primary & Secondary	74	57	26	865	612	~~1499~~ 387
TUBERCULOSIS (all forms)	26	20	23	222	197	213
TYPHOID FEVER	1	1	1	4	7	8
Total deaths reported this period		614	610		6090	6540
Deaths from pneumonia this period		28	17		209	242

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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

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Revision of the Case Definition of Acquired Immunodeficiency Syndrome for National Reporting-United States*

Patients with illnesses that, in retrospect, were manifestations of acquired immunodeficiency syndrome (AIDS) were first described in the summer of 1981. A case definition of AIDS for national reporting was first published in the MMWR in September 1982. Since then, the definition has undergone minor revisions in the list of diseases used as indicators of underlying cellular immunodeficiency.

Since the 1982 definition was published, human T-cell lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV) has been recognized as the cause of AIDS. The clinical manifestations of HTLV-III/LAV infection may be directly attributable to infection with this virus or the result of secondary conditions occurring as a consequence of immune dysfunction caused by the underlying infection with HTLV-III/LAV. The range of manifestations may include none, nonspecific signs and symptoms of illness, autoimmune and neurologic disorders, a variety of opportunistic infections, and several types of malignancy. AIDS was defined for national reporting before its etiology was known and has encompassed only certain secondary conditions that reliably reflected the presence of a severe immune dysfunction. Current laboratory tests to detect HTLV-III/LAV antibody make it possible to include additional serious conditions in the syndrome, as well as to further improve the specificity of the definition used for reporting cases.

The current case definition of AIDS has provided useful data on disease trends, because it is precise, consistently interpreted, and highly specific. Other manifestations of HTLV-III/LAV infections than those currently proposed to be reported are less specific and less likely to be consistently reported nationally. Milder disease associated with HTLV-III/LAV infections and asymptomatic infections may be reportable in some states and cities but will not be nationally reportable. Because persons with less specific or milder manifestations of HTLV-III/LAV infection may be important in transmitting the virus, estimates of the number of such persons are of value. These estimates can be obtained through epidemiologic studies or special surveys in specific populations.

Issues related to the case definition of AIDS were discussed by the Conference of State and Territorial Epidemiologists (CSTE) at its annual meeting in Madison, Wisconsin, June 2-5, 1985. The CSTE approved the following resolutions:

1. that the case definition of AIDS used for national reporting continue to include only the more severe manifestations of HTLV-III/LAV infection; and
2. that CDC develop more inclusive definitions and classifications of HTLV-III/LAV infection for diagnosis, treatment, and prevention, as well as for epidemiologic studies and special surveys; and
3. that the following refinements be adopted in the case definition of AIDS used for national reporting:

a. In the absence of the opportunistic diseases required by the current case definition, any of the following diseases will be considered indicative of AIDS if the patient has a positive serologic or virologic test for HTLV-III/LAV:

(1) disseminated histoplasmosis (not confined to lungs or lymph nodes), diagnosed by culture, histology, or antigen detection;
(2) isosporiasis, causing chronic diarrhea (over 1 month), diagnosed by histology or stool microscopy;
(3) bronchial or pulmonary candidiasis, diagnosed by microscopy or by presence of characteristic white plaques grossly on the bronchial mucosa (not by culture alone);
(4) non-Hodgkin's lymphoma of high-grade pathologic type (diffuse, undifferentiated) and of B-cell or unknown immunologic phenotype, diagnosed by biopsy;
(5) histologically confirmed Kaposi's sarcoma in patients who are 60 years old or older when diagnosed.

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b. In the absence of the opportunistic diseases required by the current case definition, a histologically confirmed diagnosis of chronic lymphoid interstitial pneumonitis in a child (under 13 years of age) will be considered indicative of AIDS unless test(s) for HTLV-III/LAV are negative.

c. Patients who have a lymphoreticular malignancy diagnosed more than 3 months after the diagnosis of an opportunistic disease used as a marker for AIDS will no longer be excluded as AIDS cases.

d. To increase the specificity of the case definition, patients will be excluded as AIDS cases if they have a negative result on testing for serum antibody to HTLV-III/LAV, have no other type of HTLV-III/LAV test with a positive result, and do not have a low number of T-helper lymphocytes or a low ratio of T-helper to T-suppressor lymphocytes. In the absence of test results, patients satisfying all other criteria in the definition will continue to be included.

CDC will immediately adopt the above amendments to the case definition of AIDS for national reporting. This revision in the case definition will result in the reclassification of less than 1% of cases previously reported to CDC. The number of additional new cases reportable as a result of the revision is expected to be small. Cases included under the revised definition will be distinguishable from cases included under the old definition so as to provide a consistent basis for interpretation of trends. CDC will also develop draft classifications for disease manifestations of HTLV-III/LAV infections other than AIDS, distribute these widely for comment, and publish the results.

Editorial note: Previously no serologic or virologic confirmation was required to meet the CDC AIDS case definition. However, under the new definition, a positive serologic or virologic test for HTLV-III/LAV is needed to diagnose histoplasmosis, isosporiasis, bronchopulmonary candidiasis, non-Hodgkin's lymphoma, and Kaposi's sarcoma in a patient over 60 as AIDS. The California Health and Safety Code (Chapter 1.11, Division 1, Section 199.21) permits the disclosure of an AIDS antibody test result, without the patient's written authorization, when done in accordance with State disease reporting requirements.

The Bureau of Communicable Disease Control conducts AIDS surveillance, education, research, and prevention programs. Two special prevention programs target heterosexual contacts of AIDS patients and recipients of blood, blood products, semen, and organs donated by AIDS patients. In order for these programs to be effective, we ask that the following information be provided with each case report, if applicable:

the date and place of donation of blood, blood products, semen, and organs donated since January 1979; and

the sexual orientation of the patient (for reporting purposes, a bisexual is defined as a person who has had intercourse with both a person of the same sex and of the opposite sex since January 1, 1979).

The accurate and timely reporting of cases is essential to the control of the AIDS epidemic. Underreporting can lead to inaccurate case projections which in turn have major implications for planning and funding. Questions regarding case reporting should be addressed to Kathryn Rauch, AIDS Surveillance Coordinator, Bureau of Communicable Disease Control, 1111 Market Street, 4th floor, San Francisco, CA 94103, (415) 621-5979.

* Reprinted from MMWR 1985 Jun 28; 34(25): 373-5.

REPORTING OF COMMUNICABLE DISEASES

The control of a communicable disease begins with its identification by the practitioner, followed by early reporting to the local health department. In California, over 50 individually listed infectious diseases, ranging from amebiasis to yellow fever, are reportable. A list of these follows.

In addition, outbreaks of infectious diseases are reportable as well as single cases of any unusual disease such as Toxic shock syndrome, Histoplasmosis, Toxoplasmosis or Echinococcosis. The San Francisco Health Department also requests reporting of diseases that are of special interest within the city or statewide for which information may be requested by the State Health Department, such as Giardia lamblia, Campylobacteriosis and Haemophilus influenzae meningitis. Laboratories must report positive findings of six diseases (Diphtheria, Gonorrhea, Syphilis, Tuberculosis, Typhoid, Listeriosis) independent of the reporting done by the practitioner. Listeriosis has recently been added as the sixth disease of this group.

Reporting serves several purposes. Primarily it alerts the department to a possible incipient epidemic in the community or in an institution such as a day care center so that investigation and efforts at containment can begin at once. Disease reporting also establishes, over time, baseline information of what can be expected to occur 'normally' in the community. This historic perspective is important in monitoring changes in the incidence of a disease that may come about following the introduction of a new vaccine or that may be due to demographic shifts or changes in social behavior. If the endemic level of a disease is known and can reasonably be defined then it is possible to identify and respond to changes that may occur.

To conduct an effective program of disease control, the health department needs to know early about the occurrence of any unusual situation and must be informed about all reportable conditions as they are observed.

Reporting is best accomplished by using the CMR which is available to practitioners from the Health Department. If your office does not have these forms, please contact the Bureau of Communicable Disease Control at 558-2926. For some conditions, an immediate report by telephone is necessary.

It should be noted that the table appearing regularly on the back page of this bulletin shows only a partial list of reportable diseases.

If you have any questions about reporting please call 558-2926.

REPORTABLE COMMUNICABLE DISEASES

The following diseases or conditions are reportable
(Section 2500, et seq., California Administrative Code, Title 17)

Acquired Immunodeficiency Syndrome (AIDS)
Amebiasis
*Anthrax
*Botulism
Brucellosis (Undulant Fever)
Chancroid
*Cholera
Coccidioidomycosis
Conjunctivitis, Acute Infectious of the Newborn (Gonorrheal Ophthalmia, Ophthalmia Neonatorum and Babies' Sore Eyes in the first 21 days of life)
*Dengue
*Diarrhea of the Newborn
*Diphtheria
Disorders Characterized by Lapses of Consciousness
Dysentery, Bacillary (see Shigella infections)
Encephalitis, Viral
*Food Poisoning (other than Botulism)
Gonococcal Infections
Granuloma Inguinale
Hepatitis, Type A
Hepatitis, Type B
Hepatitis, Non A-Non B
Hepatitis, Unspecified
Hepatitis B Carriers
Leprosy (Hansen's Disease)
Leptospirosis (Weil's Disease)
Listeriosis
Lymphogranuloma Venereum (Lymphogranuloma Inguinale)
Malaria
*Measles (Rubeola)
Meningitis, Bacterial
Meningitis, Viral
*Meningococcal Infections
Mumps
Paratyphoid Fever, A, B, and C (see Salmonella infections)
Pertussis (Whooping cough)
*Plague
*Poliomyelitis, Paralytic
Psittacosis
Q Fever
*Rabies, Human or Animal
*Relapsing Fever
Reye Syndrome
Rheumatic Fever, Acute
Rocky Mountain Spotted Fever
Rubella
Salmonella, Infectious (exclusive of typhoid fever)
Scarlet Fever
Shigella Infections
*Smallpox (Variola)
Streptococcal Infections, hemolytic (including Scarlet Fever and Streptococcal Sore Throat)
Syphilis
Tetanus
Trachoma
Trichinosis
Tuberculosis
Tularemia
*Typhoid fever, cases and carriers
*Typhus fever
Viral Exanthem in Pregnant Women
*Yellow Fever

*Outbreaks of any disease.
Unusual infectious or parasitic diseases (e.g., Campylobacter, Giardiasis, Haemophilus influenzae, Kawasaki syndrome, Toxic shock syndrome, etc.)

* Diseases of urgent concern: report immediately by telephone.

REPORTING PROCEDURES

To report by mail, send Confidential Morbidity Report card to:
Bureau of Communicable Disease Control, San Francisco Department of Public Health
101 Grove Street, Room 402, San Francisco, CA 94102

To report by telephone, use the following numbers:
TB reports: 558-4436
VD reports: 864-8100
All other reportable diseases: 558-2926

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING 11/2/85

DISEASE	CASES REPORTED WEEKS 40 THROUGH 44			TOTAL CASES REPORTED TO DATE		
	1983	1984	1985	1983	1984	1985
AIDS	22	63	64	97	415	632
AMEBIASIS	109	62	65	910	622	670
CAMPYLOBACTER	25	34	60	247	274	442
COCCIDIOIDOMYCOSIS		1	-		2	1
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	34	95	91	457	704	702
GIARDIASIS	18	45	70	137	225	481
GONORRHEA	856	944	659	8349	7359	6237
HEPATITIS Type A	6	10	15	209	73	148
HEPATITIS Type B	20	16	23	259	224	175
HEPATITIS Non A-Non B	6	2	2	65	38	24
HEPATITIS Type Unspecified	4	5	1	78	22	16
LEPROSY	2	-	2	7	-	54
MALARIA	1	3	5	20	36	27
MEASLES	-	1	-	8	16	1
MENINGITIS, BACTERIAL	-	1	1	9	3	6
MENINGITIS, VIRAL	1	1	2	12	9	19
MUMPS	1	-	-	1	11	9
PERTUSSIS		-	-	-	2	2
PSITTACOSIS	-	1	-	1	1	4
RUBELLA	-		1	5		6
SALMONELLOSIS	21	26	26	174	163	185
SHIGELLOSIS	34	41	44	423	369	320
SYPHILIS, Total	188	115	93	1695	1181	817
SYPHILIS, Primary & Secondary	107	73	49	972	685	436
TUBERCULOSIS (all forms)	17	35	27	239	232	240
TYPHOID FEVER	-	1	2	4	8	9
Total deaths reported this period		729	761		6819	7301
Deaths from pneumonia this period		23	19		232	261

CITY AND COUNTY OF SAN FRANCISCO
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Vol. 2, No. 1 January 1986

ACUTE GASTROENTERITIS IN CAMP MATHER, TUOLUMNE COUNTY: AUGUST 1985

On Friday, August 16, 1985 a physician in San Francisco reported to the Health Department that he was seeing a patient who told him that he had spent the previous week at Camp Mather in Tuolumne County and that he had observed many people ill with acute gastroenteritis. A check with the Tuolumne County Health Department revealed that they had no documentation of any outbreak in the area, and no illness in campers anywhere had been reported to them. The following Monday, however, more information became available and it was established that an outbreak of acute gastroenteritis had taken place the previous week in the camp.

Camp Mather is located in Tuolumne County, adjacent to Yosemite Park, at an altitude of 4500 feet. It is operated by the San Francisco Parks and Recreation department, and has accepted campers every summer since the early 1930's. The camp has 120 cabins which can accommodate up to 350 guests; separate cabins are provided for 50 staff. Most people stay at the camp for one week, usually from Saturday to Saturday. For the week of August 10-17, a total of 258 campers were registered. There is a common dining room, a chlorinated swimming pool, and an unchlorinated, man-made lake. The camp is inspected each year by the Bureau of Environmental Health. The last regular inspection was carried out June 16-20, 1985. At that time, sanitation of the kitchen facilities and the food handling arrangements were found to be satisfactory, and the drinking water was adequately chlorinated.

On Tuesday, August 20, 1985 one disease investigator and one sanitarian from the Health Department arrived at Camp Mather to investigate the outbreak and to collect samples for laboratory examination. They remained until Friday, August 23, 1985. During the same week, 5 individuals who had been in the camp the previous week called the Health Department to report illness in themselves or in their families. The illness consisted of diarrhea, abdominal cramps, vomiting and low grade fever, and was generally of short duration.

On Friday, August 16, one of the ill campers, after discussion with other affected campers, decided to conduct a survey to determine how many persons had been ill during the week of their stay. The survey found that of the 258 campers, approximately 40% became ill with acute gastroenteritis during the week of August 10, 1985. Detailed information was available on 45 individuals. In most persons the illness began a few days after arrival, however, some developed illness on the last day of their week's stay and continued to be ill for a day or more after returning home. For 45 individuals surveyed who had arrived Saturday, August 10, the days of onset were as follows: 1 - Sunday, 1 - Monday, 9 - Tuesday, 22 - Wednesday, 6 - Thursday, 6 - Friday. Duration of symptoms in the majority of cases ranged from half a day to two days, with few extending to three or four days. Eighty percent had diarrhea, 70% reported vomiting, and approximately 70% of the group also reported headache and fever. The headache generally was not severe, and the fever mild and of short duration.

During the week the two investigators from the Health Department were in camp (August 20-23) the illness had essentially subsided. Only 5 to 8% of the campers who had arrived on Saturday, August 17 were ill.

The sanitary inspection made at the time of the visit on August 20th, like the previous one, showed adequate chlorine levels and a safe drinking water supply. Food handling practices were observed at various times and found up to standards. There was no report of current illness among the kitchen staff, although there had been sporadic cases of gastroenteritis earlier in the summer.

A total of eight stool samples were collected. They were examined at the San Francisco Health Department laboratory and no enteric pathogens were found. Samples were forwarded to the State Health Department for viral studies. No enteric viruses were found. However, using immunoelectron microscopy, the State Health Department was able to discover a Norwalk-like agent in 2 of the 8 stool specimens. In subsequent blood specimens obtained from these 2 patients, antibody had developed against this agent. The laboratory then tested the 2 positive specimens against convalescent sera stored from previous outbreaks in other parts of the state. The Norwalk-like virus found in the stools of the Camp Mather patients reacted with these sera. Thus, it is likely that this outbreak is similar, if not identical, to several that have occurred around the state in previous years.

DISCUSSION: The clinical picture of this illness, characterized by acute diarrhea, abdominal cramps, occasional vomiting, mild fever and short duration represents acute infectious non-bacterial gastroenteritis(AING). This illness occurs most often in outbreaks, but it can occur sporadically. The exact mode of spread is not known. It may be transmitted via the fecal-oral route, suggesting foodborne or waterborne transmission. However, similar outbreaks in the past, as well as individual case reports have implicated possible spread by the respiratory route. The illness typically resolves within a few days and leaves no sequelae.

Review of the nurses log at the camp and discussion with people who had been there in previous years revealed that acute gastroenteritis is not uncommon and has occurred in past summers. Similiar outbreaks have been described in surrounding areas in recent years, and are known as the "Tuolumne Trots". The illness does not affect all persons who are present, nor all people who eat the food or drink the water.

It is difficult to prevent such outbreaks. Strict attention to foodhandling techniques and proper chlorination of the drinking water are a requisite for a healthy environment, but cannot prevent such occurrences with certainty.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING 11/30/85

DISEASE	CASES REPORTED WEEKS 45 THROUGH 48			TOTAL CASES REPORTED TO DATE		
	1983	1984	1985	1983	1984	1985
AIDS	21	48	69	118	463	701
AMEBIASIS	61	39	57	971	661	727
CAMPYLOBACTER	12	28	34	259	308	476
COCCIDIOIDOMYCOSIS		-	-		2	1
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	75	60	47	532	764	749
GIARDIASIS	7	36	18	144	261	499
GONORRHEA	632	652	463	8981	8011	6700
HEPATITIS Type A	9	8	13	218	81	161
HEPATITIS Type B	20	15	15	279	239	190
HEPATITIS Non A-Non B	5	2	-	70	40	24
HEPATITIS Type Unspecified	3	-	-	81	22	16
LEPROSY	-		-	7		54
MALARIA	1	5	2	21	41	29
MEASLES	-	-	-	8	16	1
MENINGITIS, BACTERIAL	1	-	4	10	3	10
MENINGITIS, VIRAL	1	-	1	7	9	20
MUMPS	1	1	-	2	12	9
PERTUSSIS		-	-		2	2
PSITTACOSIS	1	-	1	2	1	5
RUBELLA	-		1	5		7
SALMONELLOSIS	11	14	15	185	177	200
SHIGELLOSIS	22	29	22	445	398	342
SYPHILIS, Total	106	85	79	1801	1266	896
SYPHILIS, Primary & Secondary	51	52	36	1023	733	472
TUBERCULOSIS (all forms)	24	15	36	263	247	276
TYPHOID FEVER	-	1	2	4	9	11
Total deaths reported this period		643	658		7462	7959
Deaths from pneumonia this period		20	22		252	283

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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

Vol. 2, No. 2 February 1986

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Update: Influenza Activity - United States*

Between December 30, 1985, and January 13, 1986, 27 (36%) of 74 elderly residents in a San Joaquin County, California, nursing home developed influenza-like illnesses.+ Influenza virus type B was isolated from two of the five ill residents tested. This is the first report of a nursing-home outbreak this season associated with type B virus; an earlier report described outbreaks associated with type A(H3N2) virus in health-care facilities for elderly patients in New York (1).

Nine additional states have reported their first influenza virus isolations for the season. Type B virus has been reported from Alabama, Florida, Idaho, Louisiana, Missouri, New Jersey, and Oregon; type A(H3N2) virus has been reported from New Mexico and Oklahoma. In New York and Nevada, where type A(H3N2) virus had been reported previously this season, type B virus was also reported. The season's first influenza virus isolates have also been reported from sporadic cases in New York City; type A (H3N2) viruses have been isolated from residents of Brooklyn and the Bronx.

Tallies of patients++ with influenza-like illnesses seen by sentinel physicians nationwide increased from an average of 6.1 for the reporting week ending January 1, 1986, to an average of 8.4 for the week ending January 8. Similar increases have been observed in recent seasons concurrently with the spread of influenza outbreaks.

The percentages of deaths from 121 cities that were associated with pneumonia and influenza were 5.7% and 6.0% for the weeks ending January 11 and January 18, compared with the range of 4.9%-5.4% for the 4 preceding weeks.

+Fever of 37.7 C (100 F) or higher and one or more respiratory symptoms. Approximately 20% of the 100 staff also had febrile respiratory illnesses slightly before or during the outbreak among residents.
++Cases reported by those members of the American Academy of Family Physicians Research Panel who serve as sentinel physicians for influenza.

Editorial Note: The antiviral drug, amantadine hydrochloride, is highly effective in preventing illness caused by influenza type A viruses and has been recommended by the Immunization Practices Advisory Committee (ACIP) as an adjunct to vaccination in the control of influenza A infections (2). Amantadine is not effective against influenza type B viruses or other respiratory pathogens. Although amantadine seldom causes serious side effects in healthy, younger adults, it is more likely to cause troublesome side effects in older persons. When the normal adult dose of 200 mg daily has been reduced to 100 mg in individuals 65 years of age or older, as recommended by the ACIP, the incidence and severity of side effects has decreased substantially; however, particularly for older individuals, it is undesirable to administer amantadine over the several weeks required to prevent possible spread or reintroduction of influenza A viruses once the first evidence for an outbreak is detected, if the outbreak is actually due to influenza B or another respiratory pathogen.

References

1. CDC. Update: influenza activity - United States, worldwide. MMWR. 1986;35:28-9.
2. ACIP. Prevention and control of influenza. MMWR 1985;34:261-8, 273-5.

* Adapted from MMWR 1986 Jan 25;35(3):46-47.

San Francisco Comment:

The San Francisco Health Department participates in the annual state-wide Influenza Surveillance Program. The program is in effect each influenza season lasting approximately from November through March. The objectives are to discover the appearance of influenza in the community early in the season and to assess its extent and magnitude.

Weekly absentee tallies from schools and industry, and respiratory disease reports from sentinel sources form the basis for the determination of an outbreak. Laboratory confirmation of the prevailing strain early in the season is an important element of the program. Recording of excess mortality weekly offers an estimate of the severity of the epidemic.

Influenza activity in our area so far this season has been moderate. No major outbreaks of influenza have occurred, and only scattered isolates of type B and occasional type A influenza isolates have been recorded throughout California. San Francisco had its first type B isolate from the nasopharynx of a 2 1/2 year old girl taken on 1/21/86. No other members of her family were ill. Absentee rates in schools and industry have not shown substantial increases to date but this picture can change rapidly. It should be kept in mind that the many other respiratory viruses circulating in the community during this time can also cause significant and frequent illness in the absence of influenza. As outlined in the MMWR report above, amantadine is effective in preventing illness caused by type A influenza and should be considered for high risk persons who missed being immunized earlier. It is not effective against type B influenza or any of the other respiratory viruses.

The San Francisco Department of Public Health is interested in helping to establish the diagnosis in outbreaks which may occur in an institutional setting such as a nursing home. We will accept properly collected specimens (throat swabs or washings, acute and convalescent blood) from patients suspected of having influenza seen in the early acute phase of illness. Arrangements should be made with the Bureau of Communicable Disease Control, 558-2926, prior to submitting specimens.

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REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING Dec. 28, 1985

DISEASE	CASES REPORTED WEEKS 49 THROUGH 52			TOTAL CASES REPORTED TO DATE		
	1983	1984	1985	1983	1984	1985
AIDS	28	42	52	153	505	753
AMEBIASIS	55	81	39	1026	742	766
CAMPYLOBACTER	17	36	25	276	344	501
COCCIDIOIDOMYCOSIS		1	-		3	1
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	61	46	65	593	800	814
GIARDIASIS	17	60	29	161	321	528
GONORRHEA	670	530	461	9651	8541	7161
HEPATITIS Type A	9	6	11	227	87	172
HEPATITIS Type B	12	24	10	292	263	200
HEPATITIS Non A-Non B	1	1	-	69	41	24
HEPATITIS Type Unspecified	1	5	1	83	27	17
LEPROSY	-		1	7		55
MALARIA	-	1	4	21	42	30*
MEASLES	-	1	-	8	16	1
MENINGITIS, BACTERIAL	-	3	1	10	6	11
MENINGITIS, VIRAL	2	-	-	9	9	20
MUMPS	1	2	2	3	14	11
PERTUSSIS		-	-		2	2
PSITTACOSIS	-	-	-	2	1	5
RUBELLA	-	2	1	5	2	8
SALMONELLOSIS	12	8	10	193	185	210
SHIGELLOSIS	20	22	19	465	420	361
SYPHILIS, Total	131	88	71	1932	1354	967
SYPHILIS, Primary & Secondary	67	43	37	1090	786	509
TUBERCULOSIS (all forms)	55	26	32	318	273	308
TYPHOID FEVER	1	1	-	5	10	11
Total deaths reported this period		655	678		8117	8617
Deaths from pneumonia this period		16	18		268	301

* reflects adjustment following annual case review

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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

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AP '86

Need for Malaria Prophylaxis by Travelers to Areas With Chloroquine-Resistant Plasmodium falciparum *

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On April 12, 1985, new recommendations for malaria prophylaxis were published by CDC in response to evidence that weekly use of pyrimethamine/sulfadoxine (Fansidar) for malaria prophylaxis was associated with fatal cutaneous reactions in 1/18,000 to 1/26,000 users (1). These revised recommendations emphasized the weekly use of chloroquine or amodiaquine as the mainstay of chemoprophylaxis and suggested that the weekly prophylactic use of Fansidar be limited to travelers at very high risk of exposure to chloroquine-resistant Plasmodium falciparum, mainly longer-term travelers to eastern and central Africa. It was further recommended that short-term (3 weeks or less) travelers to areas with chloroquine-resistant P. falciparum carry three tablets (adult dose) of Fansidar to take presumptively in the event of a febrile illness when professional medical care is not readily available. Finally, the importance of personal protection from mosquito contact by use of insect repellants, insect sprays, nets, and screens was stressed.

To date, 60 cases of P. falciparum infection have been reported to CDC, with onset of illness in 1985 among U.S. travelers who acquired their infection in Kenya, where chloroquine-resistant P. falciparum is widely prevalent. Review of the preventive measures taken by these 60 persons revealed that chemoprophylaxis had been used by 46 (77%). Thirty-nine (65%) persons had used chloroquine alone weekly for prophylaxis. Weekly prophylaxis with Fansidar and chloroquine had been used by seven (12%). Of concern is that only four (24%) of 17 malaria patients investigated who had traveled to Kenya after April 1985 were aware of the recommendation for presumptive treatment with Fansidar. Furthermore, only seven (41%) of these 17 had used insect repellants.

The current recommendations are more complicated than before because they reflect an effort to balance the risks and benefits of prophylactic regimens for travelers to various areas. It is essential that health-care providers and travelers consider the possibility that a febrile illness may be malaria, even when chloroquine prophylaxis has been used. Further, it is important that the three-tablet adult treatment dosage of Fansidar and the indications for its use are explained thoroughly to travelers because responsibility is placed on them to recognize a potential malaria infection and, if necessary, treat themselves while abroad.

The current CDC guidelines for malaria prophylaxis for travelers (1,2) contain detailed recommendations for travelers to different destinations, taking into account the risk of malaria infection. Health-care providers are encouraged to report all malaria patients to state and local health departments, with particular attention to travel histories and chemoprophylaxis. CDC continues to monitor both the level of implementation of the current recommendations and their effect on the occurrence of P. falciparum infections in U.S. travelers.

References

1. CDC. Revised recommendations for preventing malaria in travelers to areas with chloroquine-resistant P. falciparum. MMWR 1985;34:185-90.
2. CDC. Health information for international travel 1985. Atlanta, Georgia: Public Health Service, U.S. Department of Health and Human Services; publication no. (CDC) 85-8280.

*Reprinted from MMWR 1986 Jan 17;35(2):21-22,27.

San Francisco Comment:

In San Francisco a total of 30 laboratory confirmed cases of malaria were reported to the Health Department in 1985. Of these, 24 individuals had infection with P. vivax, 5 with P. falciparum and 1 with P. ovale. Twelve of the 30 cases had acquired their infection in Central or South America, the rest in Africa or Asia. In 25 cases (83%) the illness began after the patient had returned to the United States. Of the 5 P. falciparum cases, 4 acquired the infection in Africa, and one in the Philippines. For prophylaxis, 2 were given chloroquine, 2 took no medication and for one this information was unknown.

A surprisingly large number of cases (20) did not take any malaria prophylaxis. Most of these were immigrants from malaria endemic areas. They either brought the infection with them at time of immigration, or apparently acquired the infection during a return trip to their native country. The new immigrants would not have had reason to take prophylaxis and those on return visits to their country of origin may feel less concerned about prophylaxis. Of the 7 long term U.S. residents traveling abroad who acquired malaria, 5 indicated that they had taken prophylaxis, while 2 had not.

It should be emphasized that with certain strains of P. vivax malaria there can be a prolonged incubation period of 8-10 months. Health care providers should take this into account in evaluating recent arrivals from malarious areas. Laboratory confirmation is made by demonstration of parasites in blood films, but several examinations may be required to find the parasites.

The Health Department receives frequent requests for advice concerning malaria and foreign travel. Our response is based on the information cited in the MMWR report above and additional recommendations issued by the Centers for Disease Control. A number of private medical clinics in San Francisco specialize in travel immunizations. These clinics also provide information to the public about prophylaxis.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING Feb. 1, 1986

DISEASE	CASES REPORTED WEEKS 1 THROUGH 5			TOTAL CASES REPORTED TO DATE		
	1984	1985	1986	1984	1985	1986
AIDS	44	62	75	44	62	75
AMEBIASIS	60	94	64	60	94	64
CAMPYLOBACTER	39	32	30	39	32	30
COCCIDIOIDOMYCOSIS						
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	78	45	47	78	45	47
GIARDIASIS	20	56	44	20	56	44
GONORRHEA	904	913	505	904	913	505
HEPATITIS Type A	7	14	15	7	14	15
HEPATITIS Type B	24	30	16	24	30	16
HEPATITIS Non A-Non B	6	2	6	6	2	6
HEPATITIS Type Unspecified		5	1		5	1
LEPROSY			3			3
MALARIA	5	3	1	5	3	1
MEASLES						
MENINGITIS, BACTERIAL		1			1	
MENINGITIS, VIRAL	2			2		
MUMPS	4			4		
PERTUSSIS						
PSITTACOSIS		1			1	
RUBELLA						
SALMONELLOSIS	28	22	24	28	22	24
SHIGELLOSIS	32	29	35	32	29	35
SYPHILIS, Total	146	120	77	146	120	77
SYPHILIS, Primary & Secondary	84	73	34	84	73	34
TUBERCULOSIS (all forms)	14	25	30	14	25	30
TYPHOID FEVER		1			1	
Total deaths reported this period		1050	892		1050	892
Deaths from pneumonia this period		60	46		60	46

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HAEMOPHILUS INFLUENZAE

A polysaccharide vaccine against invasive Haemophilus influenzae type b disease was licensed in the United States in 1985. H. influenzae type B (Hib) is a leading cause of serious systemic bacterial disease and is the most common cause of bacterial meningitis among children under 5 years of age (1). In addition to meningitis, invasive Hib disease includes epiglottitis, sepsis, cellulitis, septic arthritis, osteomyelitis, pericarditis, and pneumonia. Incidence rates of Hib disease are increased in certain high risk groups, such as Native Americans and blacks, and in patients with asplenia, sickle cell disease, and immunodeficiency syndromes.

The vaccine is recommended mainly for children 24 months of age. Although the vaccine is not as effective in children 18 to 23 months old, it is recommended if these children are enrolled or are about to be enrolled in a day care center program. A second dose of vaccine may be needed in these children later, but no specific reimmunization recommendation has yet been made nationally. The California State Department of Health Services has made an interim recommendation that children given Hib vaccine at ages 18-23 months be reimmunized once 12 months later. The vaccine is not recommended for children under the age of 18 months, or over 72 months. It may be administered simultaneously with DTP and/or MMR vaccines at different sites. Oral polio vaccine may also be given at the same time.

Invasive Hib disease is not a reportable condition in California. However, the San Francisco Department of Public Health participates in a national bacterial meningitis surveillance program by the Centers for Disease Control (CDC), and encourages reporting of meningitis due to Hib. To determine the extent of serious systemic Hib disease in San Francisco, the Bureau of Communicable Disease Control recently sent a questionnaire to 14 hospitals requesting information on numbers of cases by age groups seen in a preceding 6 month period.

Of 14 hospitals contacted, 12 (86%) responded. A total of 78 cases of invasive Hib diseases, including meningitis, were identified during the preceding six months; a period which in most instances covered July through December 1985. Of the 78, 18 (23%) had meningitis. The rest had other systemic Hib disease. Twenty-two (28%) occurred in children under 18 months of age, 8 (10%) in children 18-23 months and 48 (62%) occurred in older children and adults. A breakdown by age in the latter group could not be done, but the majority of the cases over 24 months old were young children.

These figures may somewhat underrepresent the true incidence. As they represent only a half-year period, the total annual incidence of invasive Hib disease should be approximately double the figures shown.

Immunization should be offered to all eligible children. Even though the vaccine is not effective in the age groups that would benefit most (those under 18 months) one can still realize a possible reduction of 25-35% through immunizing those who are eligible. A new Hib vaccine that would be efficacious in young children (under 18 months) is now in a trial phase and may be available in the next few years.

We would like to thank all cooperating hospitals for having replied to our survey which has enabled us to present the figures above.

1. CDC. Polysaccharide vaccine for prevention of Haemophilus influenzae Type B disease. MMWR 1985;34:201-205.

MEASLES IN SAN FRANCISCO, 1980-1985

Between 1980 and 1985, a total of 55 confirmed cases* of measles were reported to the Department of Public Health. The overall incidence during this period was 1.35 cases per 100,000 population per year. Twenty-six (47.3%) cases were reported in 1980, 2 (3.6%) in 1981, 4 (7.3%) in 1982, 8 (14.5%) in 1983, 15 (27.3%) in 1984 and none in 1985.

The ages of cases ranged between 7 months and 35 years with a median of 9 years. Seven cases (13%) were less than 1 year old and 17 (31%) were less than 5 years old (Table 1). Twenty-eight cases (51%) occurred in children 5 to 19 years old; 8 of these had been vaccinated, 4 were imported, and 1 had a prior history of measles. In all, 11 cases (20%) occurred in patients who had been adequately vaccinated.

Eleven of the 55 cases (20%) were classified as imported. These included 9 primary importations (3 from Asia, 2 from South America, 2 from Europe, and 2 from other areas of California) and 2 cases linked to these importations.

Twenty-one cases (38%) could be epidemiologically linked in 7 separate chains of transmission; the most extensive chain of transmission involved 7 cases and 2 generations of spread. All 16 secondary cases were exposed by family members or neighbors. Three cases involved adult health care workers; none had a history of nosocomial exposure to measles.

Editorial Note. During the 31-year period 1955-1985, since 1955, the number of measles cases reported per year in San Francisco has decreased dramatically (Figure 1). During the last 6 years, there have been an average of fewer than 10 cases per year with small relative increases in 1983 due to importations and in 1984 due to extended chains of transmission in unvaccinated families.

It should be noted that during this 6-year period, 20 cases (36%) were preventable** (Figure 2). Twelve of these patients were enrolled in a primary or secondary school or a licensed nursery school or day care center; 8 patients were not and thus were not subject to California immunization laws.

Table 1. Measles Cases and Incidence* by Age Group, San Francisco, 1980-1985.

	Age in Years						
	<1	1-4	5-9	10-14	15-19	≥20	Tota
Cases	7	10	13	10	5	10	55
Incidence	17.8	6.9	7.7	5.1	2.0	0.3	1.4

* Per 100,000 population per year

The other 35 (64%) patients were classified as non-preventable: 6 patients (11%) were less than 16 months old; 10 (18 percent) had been appropriately vaccinated; 11 (20%) were imported or linked to imported cases within 2 generations of spread; 7 (13%) were born before 1957; and 1 (2%) had been exempted from school vaccination laws because of a prior history of measles. Six imported cases involved 4 (7%) children less than 16 months, 1 (2%) patient who had been adequately vaccinated, and 1 (2%) patient born before 1957.

*Provisional data. A confirmed case is defined as one which fulfills clinical criteria (fever of 101.5 F or greater; generalized maculopapular rash of at least 3 days duration; and cough, coryza or conjunctivitis) and is epidemiologically linked to another confirmed or probable measles case; or which is confirmed serologically. Prior to 1982, confirmation was based on clinical criteria alone.

**A case is considered preventable if it occurs in a San Francisco resident (1) at least 16 months old, (2) born after 1956, (3) exposed in San Francisco and epidemiologically unrelated to an imported case, (4) lacking adequate evidence of immunity to measles, (5) without medical contraindication to receiving vaccine, and (6) with no religious exemption under state law (1,2).

1. CDC. Classification of measles cases and categorization of measles elimination program. MMWR 1983; 31:707-11.
2. Immunization Practices Advisory Committee. Measles prevention. MMWR 1982; 31:217-24,229-31.

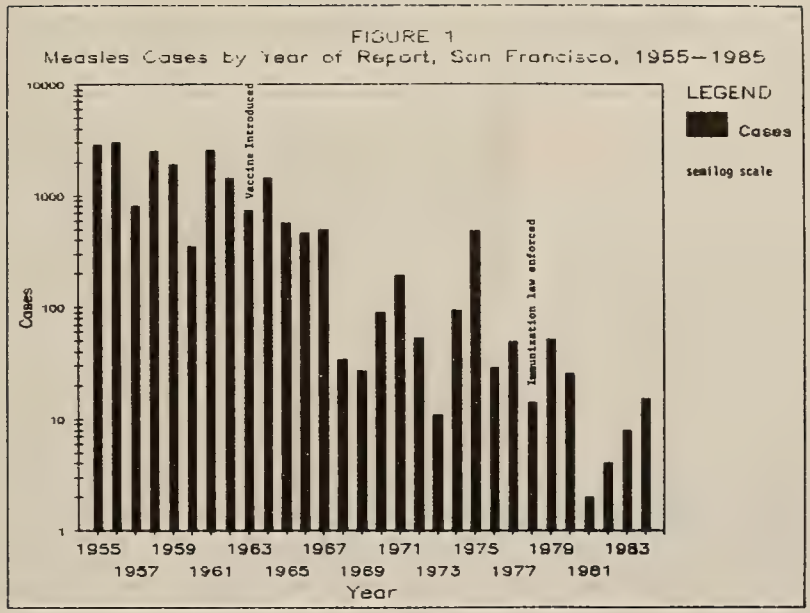
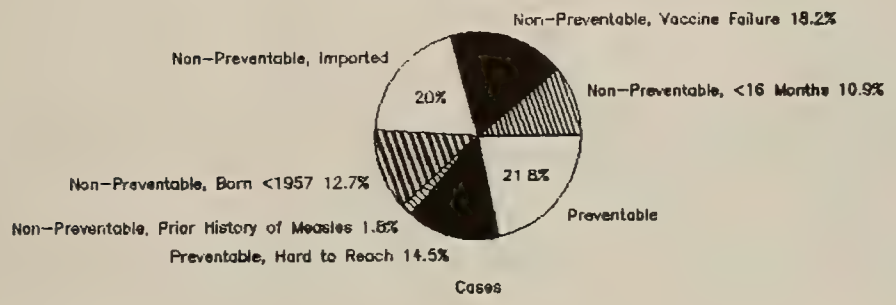


FIGURE 2
Classification of Measles Cases, San Francisco, 1980–1985



TODDLER IMMUNIZATION MONTH

Recent surveys have shown that approximately 65% of California children are not completing their basic immunizations on time. Most likely to be missed or postponed are the measles, mumps, and rubella (MMR) and polio/DTP immunizations due at 15 and 18 months of age. A majority of California children are still behind schedule by their second birthday (California Department of Health Services, unpublished data). As of March 5, 1986 pupils entering a California School for the first time must provide a written immunization record of receipt of each required dose. The ten day grace period is no longer allowed. New pupils now must show that they have received all currently due required immunizations in order to be admitted to classes.

To improve immunization levels and help California children complete their basic immunization series by age two, the annual Toddler Immunization Month campaign is scheduled for May. This joint campaign of the California Medical Association, California Academy of Family Physicians, the California chapters of the American Academy of Pediatrics and the State Department of Health Services is directed to closing the "toddler gap."

Family physicians, pediatricians or physicians with pediatric patients are being asked to help by having their staff review records of young patients, specifically those born in 1984, and sending reminders to those who are due or overdue for immunizations. To aid this effort, reminder post cards and stickers for patients and immunization summary stickers for charts are available free of charge from the Immunization Coordinator at the county health department.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING March 1, 1986

DISEASE	CASES REPORTED WEEKS 6 THROUGH 9			TOTAL CASES REPORTED TO DATE		
	1984	1985	1986	1984	1985	1986
AIDS	30	62	101	74	124	176
AMEBIASIS	45	57	60	105	151	124
CAMPYLOBACTER	13	12	63	52	44	93
COCCIDIOIDOMYCOSIS						
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	47	61	37	125	106	84
GIARDIASIS	8	49	39	28	105	83
GONORRHEA	617	385	383	1521	1298	888
HEPATITIS Type A	6	5	14	13	22	29
HEPATITIS Type B	22	22	2	46	52	18
HEPATITIS Non A-Non B	3	1	2	9	3	8
HEPATITIS Type Unspecified	1	4	2	1	9	3
LEPROSY		8	1		8	4
MALARIA	2	1	4	7	4	5
MEASLES			1			1
MENINGITIS, BACTERIAL		-	1		1	1
MENINGITIS, VIRAL	1	1		3	1	
MUMPS	1			5		
PERTUSSIS						
PSITTACOSIS		1			2	
RUBELLA						
SALMONELLOSIS	12	7	17	40	29	41
SHIGELLOSIS	42	19	21	74	48	56
SYPHILIS, Total	107	76	71	253	196	148
SYPHILIS, Primary & Secondary	59	33	41	143	106	75
TUBERCULOSIS (all forms)	13	20	17	27	45	47
TYPHOID FEVER		-	1		1	1
Total deaths reported this period		773	724		1823	1616
Deaths from pneumonia this period		33	23		93	69

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC HEALTH
BUREAU OF COMMUNICABLE DISEASE CONTROL
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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

Vol. 2, Supplement 1 April 1986

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SUPPLEMENT 1

Guidelines for Control of Perinatally Transmitted Human T-Lymphotropic Virus-Type III/Lymphadenopathy-Associated Virus Infection and Care of Infected Mothers, Infants, and Children

City and County of San Francisco
Department of Public Health
Perinatal and Pediatric AIDS Advisory Committee

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The information and recommendations contained in this document were developed and compiled by the Perinatal and Pediatric AIDS Advisory Committee, a special task force of the Department of Public Health (DPH), City and County of San Francisco, which included representatives of the Departments of Obstetrics, Gynecology, and Reproductive Sciences, Medicine, and Pediatrics, and the AIDS Activities Unit, San Francisco General Hospital, University of California, San Francisco; the San Francisco Medical Society; the American Academy of Pediatrics; the San Francisco Gynecologic Society; the San Francisco AIDS Foundation; and the Department of Social Services (DSS), the City Attorney's Office, and the Juvenile Court of the City and County of San Francisco.

These recommendations apply to all infants, children, and women of child-bearing age known to be infected or at high risk of being infected with human T-lymphotropic virus-type III/lymphadenopathy-associated virus (HTLV-III/LAV). This includes persons with Centers for Disease Control (CDC)-defined acquired immunodeficency syndrome (AIDS), persons with lesser clinical manifestations of HTLV-III/LAV infection such as AIDS-related complex (ARC), and persons with asymptomatic HTLV-III/LAV infection.

These guidelines are intended to supplement previously published national guidelines for the education and foster care of HTLV-III/LAV-infected children [1] (Attachment I) and for the prevention of perinatal HTLV-III/LAV infection (Attachment II).[2] They were approved by the Health Commission on February 4, 1986, and are being distributed to health care providers, clinics, hospitals, and interested individuals.

BACKGROUND

Perinatal HTLV-III/LAV Infection and Pediatric AIDS

The transmission of HTLV-III/LAV from infected mothers to infants, either in utero or perinatally, has been well established.[3-12] Infection in these infants can be asymptomatic or cause a variety of clinical syndromes including AIDS.[13] It is not, however, conclusively known what proportion of infants exposed in utero or perinatally will become infected and what proportion of infected infants will develop clinical disease.[2] As of December 1, 1985, 217 cases of pediatric AIDS had been reported to CDC (CDC, unpublished data). Forty-eight percent of these children were born to intravenous-drug-using mothers, 17 percent to Haitians, and 10 percent to mothers who either had AIDS or were sexual partners of men with AIDS or at risk for AIDS. An additional 39 (18 percent) children were infected through transfusions of infected blood or blood products, and 13 (6 percent) had unknown sources of infection. Thus, 165 (76 percent) of the cases had been exposed to HTLV-III/LAV in utero or perinatally.

Perinatally infected infants who go on to develop AIDS first develop symptoms at a median age of four months, and approximately one-half of these infants will be diagnosed as having AIDS by their first birthday.[13] Typical prodromal symptoms include failure to thrive, recurrent or persistent thrush, chronic interstitial pneumonitis, hepatosplenomegaly, chronic or recurrent diarrhea, lymphadenopathy, and severe recurrent bacterial infections such as sepsis and meningitis. When frank clinical AIDS develops in these patients, the most common diagnosis is Pneumocystis carinii pneumonia (62 percent) and the second most common are other opportunistic infections without Kaposi's sarcoma or Pneumocystis carinii pneumonia (33 percent).[13]

HTLV-III/LAV Infection in Women of Child-Bearing Age

In the United States, approximately 7 percent of adult cases of AIDS involve women. Fifty-three percent of these women are intravenous drug users, 15 percent are sexual partners of men in risk groups (primarily heterosexual intravenous drug users), and 9 percent have received infected blood or blood products. Eighty percent are between 20 and 49 years old. Twenty-two percent of these women are white, 55 percent black, and 23 percent Hispanic (CDC, unpublished data). In San Francisco, as of January 31, 1986, there had been 10 cases of

AIDS reported in adult women. Three of these women were intravenous drug users, one was a sexual partner of a man in a high prevalence group, four had received transfusions, and two had no identified risk. Four were between 20 and 49 years old; two of these were white, one black and one Asian.

HTLV-III/LAV Transmission in Households

None of the identified cases of HTLV-III/LAV infection in the United States are known to have been transmitted in school, day-care, or foster-care settings or through casual person-to-person contact.[1] Other than sexual partners of HTLV-III/LAV-infected patients, infants born to infected mothers, or a single case involving nosocomial transmission from a child to a mother providing nursing care [14], none of the family members of the over 17,000 AIDS patients reported to CDC have developed AIDS. Five studies of family members of patients with HTLV-III/LAV infection have failed to demonstrate HTLV-III/LAV transmission to adults who are not sexual contacts of the infected patients or to children who are not already infected perinatally.[15-19] However, if casual person-to-person transmission of HTLV-III/LAV infection does exist, it should theoretically be greatest among young children. This theoretical transmission would most likely involve exposure of open skin lesions or mucous membranes to blood and possibly other body fluids of an infected person. We emphasize that there is no evidence of this type of transmission occurring in any setting at this time.

GENERAL RECOMMENDATIONS

Education

1. **Risk-Reduction Education.** All sexually active homosexual, bisexual, and heterosexual adults with multiple sexual partners since 1979 should be aware that they are potentially at risk of HTLV-III/LAV infection, and sexually active women with multiple sexual partners since 1979 should understand that, if they have been infected, they are at risk of transmitting HTLV-III/LAV perinatally. To this end, widespread health education campaigns should address the risk of infection and the ways to prevent sexual transmission among heterosexuals and, more specifically, to women of child-bearing age. Additionally, women in recognized risk groups (Table 1) should be the target of more intensified educational campaigns and, if indicated, special educational programs to decrease their ongoing risk of parenterally or sexually acquiring HTLV-III/LAV infection, such as referral for substance abuse or sexual risk reduction counseling. These campaigns should be culturally and linguistically appropriate for these risk groups.

2. **Provider Education.** In order to provide a high standard of care for HTLV-III/LAV-infected women, infants, and children, obstetricians, pediatricians, foster parents and agencies, and other providers need to be educated about the virus, its modes of transmission, its prevention, and the special issues of confidentiality and counseling surrounding the infection. Focus should be placed on educating and training those providers serving patients at highest risk of infection. We recommend that providers assess each patient's history of potential exposure to HTLV-III/LAV and not assume that membership in a risk group implies de facto infection and, conversely, that non-membership implies non-infection.

Laboratory

We recommend that more than one method of anti-HTLV-III antibody determination be used for testing pregnant women, women in risk groups, and children of women in risk groups for HTLV-III/LAV infection. Such methods include enzyme-linked immunosorbent assay (ELISA), indirect fluorescent antibody, and Western blot. Because of the complexity of prenatal testing, especially that involving intravenous-drug-using women, laboratory testing should be done in a single reliable and experienced facility. Submission of specimens identified only by code number to this laboratory will greatly decrease the chances of inadvertant disclosure.

Pre-Conception Recommendations

Whenever possible, women infected with HTLV-III/LAV should be confidentially

identified and educated about the risks of perinatal transmission. Infected women should be advised to postpone pregnancy until more is known about the specific risks of perinatal transmission. Detailed contraceptive counseling should be offered to these women. Infected women should also be counseled to avoid unsafe sexual practices. Regardless of other contraceptive methods used, they should use barrier methods of contraception (e.g., condom or condom plus a diaphragm with a nonoxynol-9-containing spermicide) during intercourse in order to diminish the chances of transmitting HTLV-III/LAV to their sexual partners.

We recommend that women who believe themselves to be at high risk for HTLV-III/LAV infection (Table 1) be confidentially or anonymously tested for anti-HTLV-lil antibody if they are planning to become pregnant. Testing can be offered through private physicians, alternate test sites, or through clinics, especially those used by women in risk groups, such as family planning clinics, drug treatment programs, and sexually transmitted disease clinics. Testing of these women, although strongly recommended, must be voluntary and confidential. We do not recommend that women who are not in risk groups be tested at this time. However, because of possible sexual contact with men in high-incidence groups, it may be prudent for women with multiple sexual partners in areas with high incidence of AIDS to consider themselves at risk and obtain pre-conception counseling and testing if indicated. Regardless of test results, women and their children should continue to have access to all health and social services for which they are eligible.

MATERNAL RECOMMENDATIONS

Identification of Infected Pregnant Women

Routine histories taken at clinical facilities serving women potentially at high risk for HTLV-III/LAV infection should include confidential questions designed to elucidate their risk of infection. Such clinics include physicians' offices, family planning clinics, sexually transmitted disease clinics, drug treatment clinics, WIC clinics, and prenatal clinics. Written and/or audiovisual materials regarding HTLV-III/LAV infection should be available at all sites where these women are seen.

We recommend that women in risk groups be educated about HTLV-III/LAV infection and that women determined to be at risk be tested at the time they present for prenatal care. Such testing must be voluntary and confidential. We do not recommend routine testing of all pregnant women. High risk women who are seronegative in the first or second trimester should be retested in the late third trimester to rule-out intercurrent HTLV-III/LAV infection. Because quality obstetrical care requires that the obstetrical provider know if an individual patient is infected, we recommend that, whenever possible, the test be obtained through the provider. However, before such testing occurs, each provider should institute procedures which guarantee patient confidentiality. A release of information form authorizing the newborn's medical provider access to the mother's test result should also be obtained at this time. Sample consent and release of information forms are included in Appendices I and II. Because of the unique potential for exposure of health care workers to large amounts of potentially infectious blood and amniotic fluid during the course of labor and delivery, we recommend that labor and delivery personnel be notified of the need for appropriate infection control procedures on a strictly controlled basis. Ideally, this information should be transmitted directly to labor and delivery personnel and through a mechanism other than the permanent medical record.

Care of Infected Pregnant Women

These recommendations apply specifically to women who are known to be infected. Guidelines for women at high risk of infection who have not been tested for HTLV-III/LAV infection are found under "Special Considerations" below.

1. **Prenatal Care.** We recommend that any seropositive woman be retested using two different anti-HTLV-III antibody determinations to insure accuracy. We recommend that women confirmed to be seropositive be carefully counseled regarding the risk of perinatal HTLV-III/LAV infection and the options open to them.

Such options include continuation of the pregnancy or termination of pregnancy if early enough in gestation. Infected women should also be specifically counseled to postpone subsequent pregnancies until more is known about perinatal transmission of the virus. They should be medically evaluated to rule-out any incipient opportunistic infections or malignancies. Specifically, the possibility of infection with Mycobacterium tuberculosis should be evaluated by chest x-ray and PPD, and chronic infection with hepatitis B virus, cytomegalovirus, and Herpes simplex virus should be excluded. Teratogenic drugs, including trimethoprim and most antivirals, should be avoided except in the face of life-threatening maternal illness.

2. **Intrapartum Care.** We recommend that hospitals review their procedures for infection control during the intrapartum period and that hospital personnel exercise caution when dealing with any potentially infectious body fluid. For HTLV-III/LAV these fluids include blood of either maternal or fetal origin, amniotic fluid, and the placenta and membranes. Grossly contaminated linens and disposables, as well as blood and amniotic fluid specimens, should be handled according to the hospital infection control procedures. The choice of location for delivery (delivery room versus labor room) may be dictated by circumstance, but consideration should be given to a labor room delivery to minimize the need for disinfection of two locations. All personnel expected to have direct contact with an infected mother or newborn during delivery should wear gloves and gowns. Those exposed to the potential of a splash of infectious materials should strongly consider wearing a mask and protective eyewear during the delivery itself. Disposal of all materials should follow hospital infection control procedures. The labor room, delivery room, and all instruments should be disinfected with a 1:10 sodium hypochlorite solution. The placenta of a seropositive or of a high risk woman of unkown status should be labeled with "H/A Precautions" or the equivalent prior to routing for pathologic examination or disposal.

3. **Postpartum Care.** In the postpartum period, regular hospital infection control procedures for HTLV-III/LAV infection should be followed. Isolation of asymptomatic seropositive women is not recommended. Mothers should be given full access to their infants unless they have untreated pulmonary tuberculosis. Until more is known about the potential transmission of virus in breast milk, infants of mothers known to be infected should not be breast fed. However, as the benefits of breast feeding in all likelihood virus, we do not recommend that breast feeding be restricted unless the mother is known to be infected. Because the potential for exposure to large amounts of infectious material decreases markedly after delivery, information regarding the woman's antibody status should not be transmitted beyond the labor and delivery area, including to social work, law enforcement, or correctional personnel.

Special Considerations

1. **Women at High Risk of Infection who are not Screened.** We recommend that women at high risk of HTLV-III/LAV infection who have not been tested during pregnancy be presumed to be positive for purposes of intrapartum infection control procedures.

2. **Intravenous-Drug-Using Mothers.** In order to prevent further parenteral transmission of HTLV-III/LAV through needle sharing and further perinatal transmission, we recommend that women in this risk group be specially targeted for substance abuse treatment and risk reduction education.

INFANT AND PRE-SCHOOL-AGED CHILD RECOMMENDATIONS

Identification of Exposed Infants

We recommend that identification of HTLV-III/LAV-exposed infants begin in utero. If women in high incidence groups are not tested during pregnancy, we recommend that for medical reasons their infants be tested as early as possible (e.g., cord blood) and definitely before two months of age. Such testing should be done confidentially and with the voluntary consent of the child's parent or guardian.

Identification of Infected Infants

1. **Infants of Seropositive Mothers.** Infants born to mothers who are known to have been infected during pregnancy should be retested for anti-HTLV-III antibody at approximately one year of age when passively acquired maternal antibody has disappeared. Infants presenting before one year of age with symptoms suggestive of HTLV-III/LAV infection should be retested at that time. If an IgM-specific anti-HTLV-III antibody test or other method of early diagnosis becomes available, these infants should be tested for HTLV-III/LAV infection at birth.

2. **Infants and Children of High-Risk Mothers with Unknown Serologic Status.** Infants born to mothers at high-risk of HTLV-III/LAV infection whose prenatal anti-HTLV-III antibody status is unknown should be tested before two months of age for exposure to HTLV-III/LAV and retested at one year of age or earlier if clinically indicated. Older children who were born on or after January 1, 1979, and whose mothers were at risk of HTLV-III/LAV infection should be tested only (a) if they have not completed a primary series of oral polio vaccine and have not received a measles-mumps-rubella vaccination or (b) if clinically indicated. Because of potential complications of live virus vaccines, we recommend that older high-risk children be tested for HTLV-III/LAV exposure or infection prior to receiving live virus vaccines. In the event that the parent or guardian refuses testing, the infant or child should not receive live virus vaccines.

3. **Infants and Children at Risk for Parenterally Acquired Infection.** Infants and children at risk for parenterally-acquired HTLV-III/LAV infection should be tested only (a) if they received blood or blood products from a donor identified as HTLV-III/LAV-infected and will receive live virus vaccines ; (b) if they were transfused with non-heat-treated Factor VIII and will receive live virus vaccines; or (c) if clinically indicated.

4. **Infants and Children of Non-High-Risk Mothers.** Infants and children born to mothers not at high risk of HTLV-III/LAV infection and not at risk for parenterally acquired HTLV-III/LAV infection should not be tested.

Care of Exposed and Infected Infants and Children

1. **Nursery and In-Hospital Care.** Regular hospital infection control procedures for HTLV-III/LAV infection and regular hospital procedures for inpatient care of immunosuppressed patients should be followed in the nursery and during subsequent inpatient admissions. In order to prevent potential sources of infection, circumcision of exposed male infants should be strongly discouraged and only done with informed consent. Umbilical stumps should be meticulously cleaned daily until they are evulsed.

2. **Routine Home Care.** Caregivers who are exposed to the body fluids and excrement of exposed infants and infected children should be aware of the potential for infection and the modes of HTLV-III/LAV transmission. Good handwashing after exposure to body fluids and excrement should be observed and any open lesions, either on caregivers' hands or on children, should be covered.

3. **Medical Care.** Exposed infants who remain anti-HTLV-III positive beyond age 1 year or who have documented positive HTLV-III/LAV cultures at any age should be considered at risk for the development of AIDS or ARC and, therefore, potentially immunodeficient. Infants and children either at risk for the development of AIDS or ARC or who have clinical AIDS or ARC should be assumed to have a secondary combined immunodeficiency, be followed closely for problems with growth and development, and be given prompt and aggressive therapy for infections and exposure to potentially lethal infections, such as varicella and measles.

Exposed infants and infected children should not receive live virus vaccines or BCG until more is known about vaccination of HTLV-III/LAV-infected persons. Inactivated vaccines, including Haemophilus influenzae type b and pertussis vaccines and diphtheria and tetanus toxoids, are not contraindicated and should be given as regularly scheduled. Inactivated polio vaccine should be substituted for oral polio vaccine and be given in conjunction with diphtheria and tetanus toxoids and pertussis vaccine at 2, 4, 6, and 18 months and 4-6 years of age.

Measles, mumps, and rubella vaccine should not be administered to these children at the present time.

Infants or children with clinical AIDS or ARC should be evaluated and cared for as if they have combined immunodeficiency disease. Because these children potentially have a significant cellular immunodeficiency, all blood products should be irradiated to avoid graft versus host disease. Until more is known about the natural history of disease in infants who remain anti-HTLV-III positive beyond one year of age, the immune status of these children should be sequentially evaluated with the consultation of a pediatric immunologist. The increased risk of **Pneumoncystis carinii** pneumonia in these children may be modified by the use of prophylactic trimethoprim-sulfamethoxazole. As these children do not make normal specific antibodies to new antigens, their increased risk of infection with bacterial agents may be altered by monthly administration of immune serum globulin, either intramuscularly or intravenously.

Special Considerations

1. **Foster Care.** In each decision involving foster care placement, a mother's history of potential exposure to HTLV-III/LAV infection should be individually assessed to determine if she and her child are truly at risk of infection. These decisions can be made in consultation with a perinatal coordinator within DPH or, if necessary, with the Perinatal and Pediatric AIDS Advisory Committee. For the purposes of foster care decisions, the Committee will also include consumer advocates representative of ethnic and socio-economic populations at high risk for perinatally transmitted infection.

If a child whose mother has been tested for HTLV-III/LAV infection comes to foster care, we recommend that the DSS caseworker assigned to the case request that the mother's obstetrical provider release the results of her test to the perinatal coordinator with the mother's consent. A sample release of information form is included in Appendix II. Based on the results of these tests the perinatal coordinator will specify if the infant will need medical foster care placement or routine foster care placement. Medical placement will be required for infants of mothers with a positive anti-HTLV-III antibody test and will entail review of the placement decision by the Perinatal and Pediatric AIDS Advisory Committee. Routine placement will require that the mother be seronegative. The perinatal coordinator will also inform the caseworker assigned to follow the child of the reasons for medical placement and will also be responsible, in conjunction with the caseworker, for informing the foster family and the child's pediatrician of the reasons for medical placement. Additional releases of information will be required for each of these subsequent disclosures.

Children less than three years old currently in foster care and children entering foster care in the future whose mothers were not tested for HTLV-III/LAV infection prenatally should be tested for HTLV-III/LAV infection only if their mothers have been determined to be at risk of infection. Testing in this setting is indicated on medical grounds alone and should be done with the consent of the mother. A sample consent form is included in Appendix III. If the mother refuses to consent to testing or refuses to release the results of her test, we recommend that the case be reviewed by the Perinatal and Pediatric AIDS Advisory Committee and, if indicated, confidential testing of the child and release of the test results be ordered as part of dependency proceedings. Once results of the test are available they will be released by the child's provider to the perinatal coordinator in the case of voluntary testing or reported directly by the laboratory to the perinatal coordinator in the case of court-ordered testing. The perinatal coordinator will then indicate whether the child is in need of medical placement or routine placement. If the child is in need of medical placement, the perinatal coordinator will follow procedures as outlined above. If, for whatever reason, the child is not tested, the mother's exposure history will be reviewed and appropriate placement recommended by the Perinatal and Pediatric AIDS Advisory Committee.

Children in foster care three years old and older, born after January 1, 1979, and born to a mother determined to be at risk of HTLV-III/LAV infection should be tested

only if they have significant neurodevelopmental delay and lack control of their body secretions or display aggressive behavior, such as biting, or who have uncoverable, oozing lesions. Such testing should occur only after careful medical review by the Perinatal and Pediatric AIDS Advisory Committee to determine if such behaviors truly increase the theoretical risk of casual HTLV-III/LAV transmission. Again, the consent of the child's mother should be obtained for testing and release of information, or, if consent is not available, testing and release of information should be ordered by the court if indicated.

Under Section 199.21 of the Health and Safety Code of the State of California (AB 403) (Attachment III), it is unlawful to disclose the results of a blood test to detect antibodies to the probable causative agent of AIDS to any third party except pursuant to a written authorization of the person who is tested. Therefore, if written releases of information are unavailable, specific waivers will need to be obtained so that prenatal testing results can be made available by the mother's obstetric care provider to the perinatal coordinator and so that the perinatal coordinator can make either prenatal or postnatal screening results available to the DSS caseworker, the child's foster family, and the child's pediatrician. Additionally, under Section 199.22, no person shall test a person's blood for evidence of antibodies to the probable causative agent of AIDS without the written consent of the subject of the test. We feel that all prenatal testing should be done on a voluntary basis and that the mother should freely consent both to being tested and to release the test results in order to assure better medical care of her children. However, in the event that a mother determined to be at risk of infection has not been tested prenatally, refuses to be tested prenatally, or refuses to consent to release the results of her prenatal test, as it is our opinion that testing of high-risk children for HTLV-III/LAV infection is medically indicated, we recommend that, if these children are to be placed in foster homes, such testing be obtained and, if necessary, be specifically ordered by the court having jurisdiction over the child. However, prior to any court-ordered testing, the case must be reviewed by the Perinatal and Pediatric AIDS Advisory Committee to determine if testing is indeed indicated.

2. **Adoption.** We recommend that infants and children (a) whose mothers were at high risk of HTLV-III/LAV infection, (b) who were born on or after January 1, 1979, and (c) who have not been previously tested be tested for HTLV-III/LAV infection prior to placement. We recommend that the HTLV-III/LAV status of all children at high risk of infection be made available to adopting parents prior to final placement so that they can consider the possible social and psychological effects on their families.

CONCLUSIONS

We reemphasize that these are interim guidelines which will need to be reviewed as more information becomes available on perinatal transmission, the natural history of HTLV-III/LAV infection in pregnancy and childhood, and household transmission and also as vaccine and definitive antiviral therapy become available. Finally, it should be clearly stated that all evidence suggests that there is no risk for casual transmission of HTLV-III/LAV and that the primary intent of these guidelines is to assure appropriate medical care for infected pregnant women, infants, and children.

TABLE 1. Groups in Which HTLV-III/LAV Infection Has Been Reported, Females

Mode of Transmission	Group
Sexual	Sexual contacts of AIDS patients or men in risk groups*
	Artifically inseminated women (donor insemination) between January 1, 1979, and June 1, 1985
Parenteral	Intravenous drug users
	Recipients of blood or blood products between January 1, 1979, and June 1, 1985
Either	Mothers of perinatally infected children

* Women with multiple sexual partners in areas with high incidence of AIDS should possibly consider themselves in this category.

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APPENDIX I

MODEL

INFORMED CONSENT TO DO TEST FOR AIDS VIRUS (HTLV-III/LAV) ANTIBODY

IMPORTANT INFORMATION REGARDING THIS TEST

The AIDS virus (HTLV-III/LAV) antibody test detects the presence of antibodies, naturally occurring substances in the blood produced by the body following infection with the AIDS virus, by using a simple blood test. This is **not** a test for AIDS. The test does not tell you if you have AIDS or an AIDS-related condition (ARC); it does show whether you have been infected with the virus that can cause AIDS. For further information regarding AIDS or the AIDS virus antibody test, consult your physician or call the San Francisco AIDS Foundation Hotline (415-863-AIDS).

I understand that this test result will be part of my medical record and my baby's medical record. I have been informed about the AIDS virus (HTLV-III/LAV) antibody test (see reverse). I have had a chance to ask questions which were answered to my satisfaction. I believe that I understand the benefits and risks of the test.

Date: _____ 19___ _____
(Patient's Signature)

_____
(Patient's Printed Name)

_____
(Witness)

HTLV-III ANTIBODY TEST - LIMITATIONS AND IMPLICATIONS

A. This test will **not** tell you:

- if your child has AIDS or ARC (AIDS related condition);
- if your child will develop AIDS or ARC;
- if your child is immune to AIDS or ARC;
- if your child is healthy.

B. A negative test result indicates that the antibody has **not** been found in your child's blood. If your child tests **negative**, there are three possible explanations:
- your child has not been infected with the virus; **or**
- your child has been exposed to the virus but has not become infected; **or**
- your child has been infected by the virus but has not yet produced antibodies.

Research indicates most people produce antibodies within 2-8 weeks after infection. Some people will not produce antibodies for six months or more. A very small number of people will never produce antibodies.

C. A **positive** test result indicates that your child has probably been infected with the AIDS virus, and his or her body has produced antibodies. Researchers have shown that most people with AIDS antibodies have active virus in their bodies. A positive result does **not** mean:
- that your child has AIDS or ARC;
- that your child will necessarily get AIDS or ARC;
- that your child is immune to AIDS.

D. Not everyone infected with the virus will develop AIDS.

1. The majority of infected children will develop antibodies to the virus yet remain healthy. They will display none of the symptoms of AIDS.

2. A smaller group of children who also have antibodies will develop some of the symptoms of AIDS. These children are diagnosed as having ARC (AIDS-related condition).

3. An unknown percentage of infected, antibody-positive children will develop AIDS. A diagnosis of AIDS is made only after finding specific life-threatening infections or malignancies that do not normally occur in healthy children.

E. NOTE ABOUT CONFIDENTIALITY - Parents of children taking the test should be aware that there may be some risk associated with letting others know about their child's test results. While using test results as grounds for discrimination in insurance or employment is prohibited by California law, the burden of proof is on the person discriminated against.

MODEL

AUTHORIZATION TO RELEASE THE RESULTS OF A BLOOD TEST TO DETECT ANTIBODIES TO THE AIDS RELATED VIRUS (HTLV-III)

A. EXPLANATION:

Permission to release the results of your blood test to detect antibodies to the AIDS related virus (HTLV-III) is being asked of you to fulfill the terms of the Confidentiality of Medical Information Act, Civil Code Section 56 et seq. and Health and Safety Code, Section 199.21 (f,g,h).

Written permission must be given for each separate release of AIDS antibody test results by a person or institution who did the test. Release of your test results without your consent is punishable by fine (Health & Safety Code, Section 199.21 (a,b,c,d,e)).

B. AUTHORIZATION:

I hereby authorize _____
(Name of person or institution)

to release to _____
(Name of the person who is to receive the results)

the results of blood tests to detect antibodies to the AIDS virus (HTLV-III/LAV).

C. USES:

The results of the test cannot be used to deny insurance or employment. The information will be used only for the medical care [and foster-care placement]* of your baby.

D. DURATION:

This authorization shall be effective immediately and shall remain in effect indefinitely or until _____ 19 ____.

E. RESTRICTIONS:

I understand that the requester may not further use or release my test results unless another authorization is obtained from me.

F. ADDITIONAL COPY:

I further understand that I have a right to receive a copy of this authorization upon my request.

Date: _____ 19_____ _____
(Patient's Signature)

_____
(Patient's Printed Name)

Original to Medical Record
Copy to Patient
Copy to person who is to receive the results.

APPENDIX III

MODEL

INFORMED CONSENT TO DO TEST FOR AIDS VIRUS (HTLV-III/LAV) ANTIBODY

IMPORTANT INFORMATION REGARDING THIS TEST

The AIDS virus (HTLV III/LAV) antibody test detects the presence of antibodies, naturally occurring substances in the blood produced by the body following infection with the AIDS virus, by using a simple blood test. This is **not** a test for AIDS. The test does not tell you if your child has AIDS or an AIDS-related condition (ARC); it does show whether your child has been infected with the virus that can cause AIDS. For further information regarding AIDS or AIDS virus antibody test, consult your child's physician or call the San Francisco AIDS Foundation Hotline (415-863-AIDS).

I understand that this test result will be part of my child's medical record. I have been informed about the AIDS virus (HTLV-III/LAV) antibody test (see reverse). I have had a chance to ask questions which were answered to my satisfaction. I believe that I understand the benefits and risks of the test.

Date: _____ 19___ _____
(Parent's or Guardian's Signature)

_____
(Patient's Printed Name)

_____
(Witness)

HTLV-III ANTIBODY TEST -- LIMITATIONS AND IMPLICATIONS

A. This test will **not** tell you:
- if you have AIDS or ARC (AIDS related condition);
- if you will develop AIDS or ARC;
- if you are immune to AIDS or ARC;
- if you are healthy.

B. A negative test result indicates that the antibody has **not** been found in your blood. If you test **negative**, there are three possible explanations:
- you have not been infected with the virus; **or**
- you have had contact with the virus but have not become infected; **or**
- you have been infected by the virus but have not yet produced antibodies.

Research indicates most people produce antibodies within 2-8 weeks after infection. Some people will not produce antibodies for six months or more. A very small number of people will never produce antibodies.

A negative result does **not** mean:
- that you are immune to the virus;
- that you have not been infected with the virus. You may have been infected and have not yet produced antibodies.

C. A **positive** test result indicates that you have probably been infected with the AIDS virus and your body has produced antibodies. Researchers have shown that most people with AIDS antibodies have active virus in their bodies. You may therefore assume you are contagious and capable of passing the virus on to others including your baby. A positive result does **not** mean:
- that you have AIDS or ARC;
- that you will necessarily get AIDS or ARC;
- that you are immune to AIDS.

D. Not everyone infected with the virus will develop AIDS.
1. The majority of infected people will develop antibodies to the virus yet remain healthy. They will display none of the symptoms of AIDS.
2. A smaller group of people who also have antibodies will develop some of the symptoms of AIDS. These people are diagnosed as having ARC (AIDS-related condition).
3. An unknown percentage of infected people will develop AIDS. A diagnosis of AIDS is made only after finding specific life-threatening infections or malignancies that do not normally occur in healthy people.

E. NOTE ABOUT CONFIDENTIALITY - People taking the test should be aware that there may be some risk associated with letting others know about their test results. While using test results as grounds for discrimination in insurance or employment is prohibited by California law, the burden of proof is on the person discriminated against. There are benefits associated with telling your physician, dentist, and sexual partners. You should ascertain first, however, what they will do with the information and who they will share it with.

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Education and Foster Care of Children Infected with Human T-Lymphotropic Virus Type III/ Lymphadenopathy-Associated Virus

The information and recommendations contained in this document were developed and compiled by CDC in consultation with individuals appointed by their organizations to represent the Conference of State and Territorial Epidemiologists, the Association of State and Territorial Health Officers, the National Association of County Health Officers, the Division of Maternal and Child Health (Health Resources and Services Administration), the National Association for Elementary School Principals, the National Association of State School Nurse Consultants, the National Congress of Parents and Teachers, and the Children's Aid Society. The consultants also included the mother of a child with acquired immunodeficiency syndrome (AIDS), a legal advisor to a state education department, and several pediatricians who are experts in the field of pediatric AIDS. This document is made available to assist state and local health and education departments in developing guidelines for their particular situations and locations.

These recommendations apply to all children known to be infected with human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV). This includes children with AIDS as defined for reporting purposes (Table 1); children who are diagnosed by their physicians as having an illness due to infection with HTLV-III/LAV but who do not meet the case definition; and children who are asymptomatic but have virologic or serologic evidence of infection with HTLV-III/LAV. These recommendations do not apply to siblings of infected children unless they are also infected.

BACKGROUND

The Scope of the Problem. As of August 20, 1985, 183 of the 12,599 reported cases of AIDS in the United States were among children under 18 years of age. This number is expected to double in the next year. Children with AIDS have been reported from 23 states, the District of Columbia, and Puerto Rico, with 75% residing in New York, California, Florida, and New Jersey.

The 183 AIDS patients reported to CDC represent only the most severe form of HTLV-III/LAV infection, i.e., those children who develop opportunistic infections or malignancies (Table 1). As in adults with HTLV-III/LAV infection, many infected children may have milder illness or may be asymptomatic.

Legal Issues. Among the legal issues to be considered in forming guidelines for the education and foster care of HTLV-III/LAV-infected children are the civil rights aspects of public

HTLV-III/LAV – Continued

TABLE 1. Provisional case definition for acquired immunodeficiency syndrome (AIDS) surveillance of children

For the limited purposes of epidemiologic surveillance, CDC defines a case of pediatric acquired immunodeficiency syndrome (AIDS) as a child who has had:

1. A reliably diagnosed disease at least moderately indicative of underlying cellular immunodeficiency, and
2. No known cause of underlying cellular immunodeficiency or any other reduced resistance reported to be associated with that disease.

The diseases accepted as sufficiently indicative of underlying cellular immunodeficiency are the same as those used in defining AIDS in adults. In the absence of these opportunistic diseases, a histologically confirmed diagnosis of chronic lymphoid interstitial pneumonitis will be considered indicative of AIDS unless test(s) for HTLV-III/LAV are negative. Congenital infections, e.g., toxoplasmosis or herpes simplex virus infection in the first month after birth or cytomegalovirus infection in the first 6 months after birth must be exluded.

Specific conditions that must be excluded in a child are:

1. Primary immunodeficiency diseases—severe combined immunodeficiency, DiGeorge syndrome, Wiskott-Aldrich syndrome, ataxia-telangiectasia, graft versus host disease, neutropenia, neutrophil function abnormality, agammaglobulinemia, or hypogammaglobulinemia with raised IgM.
2. Secondary immunodeficiency associated with immunosuppressive therapy, lymphoreticular malignancy, or starvation.

school attendance, the protections for handicapped children under 20 U.S.C. 1401 et seq. and 29 U.S.C. 794, the confidentiality of a student's school record under state laws and under 20 U.S.C. 1232g, and employee right-to-know statutes for public employees in some states.

Confidentiality Issues. The diagnosis of AIDS or associated illnesses evokes much fear from others in contact with the patient and may evoke suspicion of life styles that may not be acceptable to some persons. Parents of HTLV-III/LAV-infected children should be aware of the potential for social isolation should the child's condition become known to others in the care or educational setting. School, day-care, and social service personnel and others involved in educating and caring for these children should be sensitive to the need for confidentiality and the right to privacy in these cases.

ASSESSMENT OF RISKS

Risk Factors for Acquiring HTLV-III/LAV Infection and Transmission. In adults and adolescents, HLTV-III/LAV is transmitted primarily through sexual contact (homosexual or heterosexual) and through parenteral exposure to infected blood or blood products. HTLV-III/LAV has been isolated from blood, semen, saliva, and tears but transmission has not been documented from saliva and tears. Adults at increased risk for acquiring HTLV-III/LAV include homosexual/bisexual men, intravenous drug abusers, persons transfused with contaminated blood or blood products, and sexual contacts of persons with HTLV-III/LAV infection or in groups at increased risk for infection.

The majority of infected children acquire the virus from their infected mothers in the perinatal period (*1-4*). In utero or intrapartum transmission are likely, and one child reported from Australia apparently acquired the virus postnatally, possibly from ingestion of breast milk (*5*). Children may also become infected through transfusion of blood or blood products that contain the virus. Seventy percent of the pediatric cases reported to CDC occurred among children whose parent had AIDS or was a member of a group at increased risk of acquiring HTLV-III/LAV infection; 20% of the cases occurred among children who had received blood or blood products; and for 10%, investigations are incomplete.

HTLV-III/LAV – Continued

Risk of Transmission in the School, Day-Care or Foster-Care Setting. None of the identified cases of HTLV-III/LAV infection in the United States are known to have been transmitted in the school, day-care, or foster-care setting or through other casual person-to-person contact. Other than the sexual partners of HTLV-III/LAV-infected patients and infants born to infected mothers, none of the family members of the over 12,000 AIDS patients reported to CDC have been reported to have AIDS. Six studies of family members of patients with HTLV-III/LAV infection have failed to demonstrate HTLV-III/LAV transmission to adults who were not sexual contacts of the infected patients or to older children who were not likely at risk from perinatal transmission (*6-11*).

Based on current evidence, casual person-to-person contact as would occur among schoolchildren appears to pose no risk. However, studies of the risk of transmission through contact between younger children and neurologically handicapped children who lack control of their body secretions are very limited. Based on experience with other communicable diseases, a theoretical potential for transmission would be greatest among these children. It should be emphasized that any theoretical transmission would most likely involve exposure of open skin lesions or mucous membranes to blood and possibly other body fluids of an infected person.

Risks to the Child with HTLV-III/LAV Infection. HTLV-III/LAV infection may result in immunodeficiency. Such children may have a greater risk of encountering infectious agents in a school or day-care setting than at home. Foster homes with multiple children may also increase the risk. In addition, younger children and neurologically handicapped children who may display behaviors such as mouthing of toys would be expected to be at greater risk for acquiring infections. Immunodepressed children are also at greater risk of suffering severe complications from such infections as chickenpox, cytomegalovirus, tuberculosis, herpes simplex, and measles. Assessment of the risk to the immunodepressed child is best made by the child's physician who is aware of the child's immune status. The risk of acquiring some infections, such as chickenpox, may be reduced by prompt use of specific immune globulin following a known exposure.

RECOMMENDATIONS

1. Decisions regarding the type of educational and care setting for HTLV-III/LAV-infected children should be based on the behavior, neurologic development, and physical condition of the child and the expected type of interaction with others in that setting. These decisions are best made using the team approach including the child's physician, public health personnel, the child's parent or guardian, and personnel associated with the proposed care or educational setting. In each case, risks and benefits to both the infected child and to others in the setting should be weighed.
2. For most infected school-aged children, the benefits of an unrestricted setting would outweigh the risks of their acquiring potentially harmful infections in the setting and the apparent nonexistent risk of transmission of HTLV-III/LAV. These children should be allowed to attend school and after-school day-care and to be placed in a foster home in an unrestricted setting.
3. For the infected preschool-aged child and for some neurologically handicapped children who lack control of their body secretions or who display behavior, such as biting, and those children who have uncoverable, oozing lesions, a more restricted environment is advisable until more is known about transmission in these settings. Children infected with HTLV-III/LAV should be cared for and educated in settings that minimize exposure of other children to blood or body fluids.

HTLV-III/LAV – Continued

4. Care involving exposure to the infected child's body fluids and excrement, such as feeding and diaper changing, should be performed by persons who are aware of the child's HTLV-III/LAV infection and the modes of possible transmission. In any setting involving an HTLV-III/LAV-infected person, good handwashing after exposure to blood and body fluids and before caring for another child should be observed, and gloves should be worn if open lesions are present on the caretaker's hands. Any open lesions on the infected person should also be covered.
5. Because other infections in addition to HTLV-III/LAV can be present in blood or body fluids, all schools and day-care facilities, regardless of whether children with HTLV-III/LAV infection are attending, should adopt routine procedures for handling blood or body fluids. Soiled surfaces should be promptly cleaned with disinfectants, such as household bleach (diluted 1 part bleach to 10 parts water). Disposable towels or tissues should be used whenever possible, and mops should be rinsed in the disinfectant. Those who are cleaning should avoid exposure of open skin lesions or mucous membranes to the blood or body fluids.
6. The hygienic practices of children with HTLV-III/LAV infection may improve as the child matures. Alternatively, the hygienic practices may deteriorate if the child's condition worsens. Evaluation to assess the need for a restricted environment should be performed regularly.
7. Physicians caring for children born to mothers with AIDS or at increased risk of acquiring HTLV-III/LAV infection should consider testing the children for evidence of HTLV-III/LAV infection for medical reasons. For example, vaccination of infected children with live virus vaccines, such as the measles-mumps-rubella vaccine (MMR), may be hazardous. These children also need to be followed closely for problems with growth and development and given prompt and aggressive therapy for infections and exposure to potentially lethal infections, such as varicella. In the event that an antiviral agent or other therapy for HTLV-III/LAV infection becomes available, these children should be considered for such therapy. Knowledge that a child is infected will allow parents and other caretakers to take precautions when exposed to the blood and body fluids of the child.
8. Adoption and foster-care agencies should consider adding HTLV-III/LAV screening to their routine medical evaluations of children at increased risk of infection before placement in the foster or adoptive home, since these parents must make decisions regarding the medical care of the child and must consider the possible social and psychological effects on their families.
9. Mandatory screening as a condition for school entry is not warranted based on available data.
10. Persons involved in the care and education of HTLV-III/LAV-infected children should respect the child's right to privacy, including maintaining confidential records. The number of personnel who are aware of the child's condition should be kept at a minimum needed to assure proper care of the child and to detect situations where the potential for transmission may increase (e.g., bleeding injury).
11. All educational and public health departments, regardless of whether HTLV-III/LAV-infected children are involved, are strongly encouraged to inform parents, children, and educators regarding HTLV-III/LAV and its transmission. Such education would greatly assist efforts to provide the best care and education for infected children while minimizing the risk of transmission to others.

HTLV-III/LAV – Continued

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Current Trends

Recommendations for Assisting in the Prevention of Perinatal Transmission of Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus and Acquired Immunodeficiency Syndrome

The information and recommendations in this document are intended to assist health-care providers and state and local health departments in developing procedures to prevent perinatal transmission of human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV), the virus that causes acquired immunodeficiency syndrome (AIDS).

This document contains recommendations for providing counselling and, when indicated, testing for antibody to HTLV-III/LAV for women who are at increased risk of acquiring the virus and who are either pregnant or may become pregnant. It is important that these women know they are at risk, as well as know and understand their HTLV-III/LAV-antibody status, so they can make informed decisions to help prevent perinatally acquired HTLV-III/LAV.

Through counselling, uninfected women can learn how to avoid becoming infected, and infected women can choose to delay pregnancy until more is known about perinatal transmission of the virus. If already pregnant, infected women can be provided information for managing the pregnancy and caring for the child.

Currently available data indicate that most pediatric HTLV-III/LAV infections and AIDS are acquired perinatally from infected women, but additional studies are needed to better quantify the risk of transmission from an infected pregnant woman to the fetus or newborn.

The recommendations below pertain to women. However, men who are HTLV-III/LAV-antibody positive should also be counselled regarding the risks of sexual and perinatal transmission, so they can refer for counselling and testing their sex partners who may be pregnant or considering pregnancy.

BACKGROUND

Pediatric AIDS Cases due to Perinatal Transmission. As of December 1, 1985, 217 (1%) of the 15,172 AIDS cases reported to CDC occurred among children under 13 years of age. Sixty percent of these children are known to have died. These 217 cases represent only the more severe manifestations of HTLV-III/LAV infection. Less severe manifestations, often described as AIDS-related complex (ARC), are not reported to CDC, so the number of children with clinically significant illness attributable to HTLV-III/LAV infection is greater than the reported cases of pediatric AIDS. In addition, a number of infected children are probably asymptomatic.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HTLV-III/LAV — Continued

Of the 217 reported pediatric AIDS patients, 165 (76%) have as their only known risk factor a mother belonging to a group with increased prevalence of HTLV-III/LAV infection. An additional 18% of the pediatric cases are attributable to transfusions of blood or blood products, while risk factor information is missing or incomplete on the remaining 6%. Of the 217 children with AIDS, 48% had mothers who were intravenous (IV) drug abusers; 17% had mothers who were born in Haiti; and 10% had mothers who were sex partners of either IV drug abusers or bisexual men.

Of the patients with perinatally acquired AIDS, 45% resided in New York City, while Florida and New Jersey accounted for an additional 32%.

Mechanisms of Perinatal Transmission. It is believed that HTLV-III/LAV is transmitted from infected women to their fetuses or offspring during pregnancy, during labor and delivery, or perhaps shortly after birth. Transmission of the virus during pregnancy or labor and delivery is demonstrated by two reported AIDS cases occurring in children who had no contact with their infected mothers after birth. One was delivered by Cesarean section (*1,2*).

Transmission of the virus after birth has been implicated in one case of HTLV-III/LAV infection in a child born to a mother reported to have acquired the infection from a postpartum blood transfusion. Since she breastfed the child for 6 weeks, the authors suggested breast-feeding as the possible mode of transmission (*3*). Recently, HTLV-III/LAV has been isolated from the breast milk of infected women (*4*).

Risk of Perinatal Transmission from Infected Mothers. The rate of perinatal transmission of HTLV-III/LAV from infected pregnant women is unknown; however, available data suggest a high rate. In one study of 20 infants born to infected mothers who had already delivered one infant with AIDS, 13 (65%) had serologic and/or clinical evidence of infection with HTLV-III/LAV several months after birth (*5,6*). Since these women were selected on the basis of having previously transmitted HTLV-III/LAV perinatally, this study may overestimate the average risk of transmission for all infected pregnant women.

Perinatal transmission from an infected mother to her newborn is not inevitable. Of three children born to women who became infected with HTLV-III/LAV by artificial insemination from an infected donor, all were in good health and negative for antibody to the virus more than 1 year after birth (*7*). Another child, born to a woman who was already pregnant at the time of AIDS diagnosis and was demonstrated to be viremic, was seronegative, culture negative, and healthy at birth and at 4 months of age (*8*). In a retrospective study evaluating nine children under 5 years of age whose mothers were later diagnosed with AIDS, two (22%) had antibody to HTLV-III/LAV (*9*). The infection status of these women during pregnancy was unknown.

In these studies, the rate of transmission ranged from 0% (0/3) to 65% (13/20). Additional studies are needed to better define the rate of transmission and variables associated with it.

Risk of Illness among Infected Pregnant Women. Pregnancy is associated with suppression of cell-mediated immunity and increased susceptibility to some infections (*10*). The T-helper to T-suppressor ratio is decreased during normal pregnancy, being lowest in the third trimester, and returns to normal approximately 3 months postpartum (*10*). It is not known whether pregnancy increases an infected woman's risk of developing AIDS or ARC, but one study suggests it does (*6*). Fifteen infected women who were well at time of delivery were followed an average of 30 months after the births of their children. Five (33%) subsequently developed AIDS; seven (47%) developed AIDS-related conditions; and only three (20%) remained asymptomatic. These results may not apply to all infected pregnant women, but they do suggest an increased likelihood of developing disease when an HTLV-III/LAV infection occurs in association with pregnancy.

HTLV-III/LAV – Continued

Prevalence of HTLV-III/LAV Infection. Counselling and testing for antibody to HTLV-III/LAV, when indicated, to reduce perinatal transmission of AIDS will be most beneficial in populations of women with increased prevalence of the virus (Table 1). These include: women who have used drugs intravenously for nonmedical purposes; women who were born in countries where heterosexual transmission is thought to play a major role (*11,12*); women who have engaged in prostitution; and women who are or have been sex partners of men who abuse IV drugs, are bisexual, have hemophilia, were born in countries where heterosexual transmission is thought to play a major role (*11,12*), or have evidence of HTLV-III/LAV infection.

The prevalence of antibody to HTLV-III/LAV in U.S. populations of men and women ranges from less than 0.01% in female blood donors to as high as 74% in men with hemophilia (*13-15*). Among heterosexual IV drug abusers, the prevalence of HTLV-III/LAV infection ranges from 2% to 59% in various geographic areas (*16,17*). Seroprevalence among the heterosexual partners of persons at increased risk for AIDS varies from 10% in female partners of asymptomatic, seropositive hemophilia patients to 71% in the female partners of men with AIDS or ARC (*18-20*). Among prostitutes, the HTLV-III/LAV antibody prevalence varies from 5% to 40%, depending on geographic area, with most of the women with positive tests relating histories of IV drug abuse (*21*). Among female blood donors in Atlanta, Georgia, who

TABLE 1. Prevalence of HTLV-III/LAV antibody in heterosexual populations — United States

Populations	Location	No. tested	Prevalence (%)
Intravenous drug abusers (*16,17*)	New York City	274	59
	NJ* < 5 miles from NYC†	204	56
	NJ 5-10 miles from NYC	124	43
	NJ > 100 miles from NYC	55	2
	San Francisco	53	9
Persons with hemophilia (*13,14*)			
Factor VIII concentrate recipients		234	74
Factor IX concentrate recipients		36	39
Cryoprecipitate only recipients		15	40
Female prostitutes (*21*)	Seattle, Washington	92	5
	Miami, Florida	25	40
Female sex partners of men with AIDS or ARC (two separate studies) (*19,20*)		7	71
		42	47
Female sex partners of men with asymptomatic HTLV-III/LAV infection (*18*)		21	10
Haitians (*12*)	New York City	97	4
	Miami, Florida	129	8
Female blood donors (*15*)	Atlanta, Georgia	28,354	0.01

*New Jersey
†New York City

HTLV-III/LAV – Continued

denied belonging to high-risk groups, 0.01% had repeatedly reactive enzyme-linked immunosorbent assays (ELISAs) followed by reactive Western blot tests (*15*).

Commercially available tests to detect antibody to HTLV-III/LAV are ELISAs using antigens derived from whole disrupted HTLV-III/LAV. When the ELISA is reactive on initial testing, it is standard procedure to repeat the test on the same specimen. Repeatedly reactive tests are highly sensitive and specific for antibody to HTLV-III/LAV. However, when the ELISA is used to screen populations in which the prevalence of infection is very low (such as blood donors or women not in high-risk groups), the proportion of repeatedly reactive results that are falsely positive will be higher. For that reason, an additional test, such as a Western blot, is recommended following repeatedly reactive ELISA results, especially in low-prevalence populations. In populations with high prevalence of infection (e.g. homosexual men or IV drug abusers), most repeatedly reactive ELISAs are reactive by Western blot or another test. For example, among 109 IV drug abusers whose sera were repeatedly reactive by ELISA, over 85% were reactive by Western blot (*22*). In contrast, in a low-prevalence population of 69 female blood donors whose sera were repeatedly reactive by ELISA, only 5% were reactive by Western blot (*15*).

Due to the seriousness of the implications of HTLV-III/LAV-antibody reactivity, it is recommended that repeatedly reactive ELISAs be followed by an additional test, such as the Western blot. Women with sera repeatedly reactive by ELISA and reactive by Western blot should have a thorough medical evaluation. HTLV-III/LAV has been isolated from a single specimen in 67%-95% of persons with specific antibody (*23,24*). Because infection has been demonstrated in asymptomatic persons, the presence of specific antibody should be considered presumptive evidence of current infection and infectiousness.

RECOMMENDATIONS

Women Who Should be Offered Counselling and Testing. *Counselling services and testing for antibody to HTLV-III/LAV should be offered to pregnant women and women who may become pregnant in the following groups*: (1) those who have evidence of HTLV-III/LAV infection; (2) those who have used drugs intravenously for nonmedical purposes; (3) those who were born in countries where heterosexual transmission is thought to play a major role (*11,12*); (4) those who have engaged in prostitution; (5) those who are or have been sex partners of: IV drug abusers, bisexual men, men with hemophilia, men who were born in countries where heterosexual transmission is thought to play a major role (*11,12*), or men who otherwise have evidence of HTLV-III/LAV infection. If data become available to show that HTLV-III/LAV-antibody prevalence is increased in other groups or settings, counselling and testing programs should be extended to include them. Routine counselling and testing of women who are not included in the above-mentioned groups is not recommended due to low prevalence of infection and concern about interpretation of test results in a low-prevalence population. However if a woman requests it, the service should be provided in accordance with these recommendations.

Settings for Offering Counselling and Testing. Counselling and testing for antibody to HTLV-III/LAV to prevent perinatal transmission is recommended in the setting of any medical service in which women at increased risk are commonly encountered. These include services for treating IV drug abuse (i.e., detoxification and methadone maintenance), comprehensive hemophilia treatment centers, sexually transmitted disease clinics, and clinics that serve female prostitutes. In addition, services related to reproduction, such as family planning and infertility services, gynecologic, premarital, or preconceptual examinations, and prenatal and

HTLV-III/LAV – Continued

obstetric services should also consider offering counselling and testing if high-risk women are seen at these facilities. Testing for antibody to HTLV-III/LAV should be performed with the woman's consent after counselling is provided regarding risk factors for infection, the interpretation of test results, the risks of transmission, and the possible increased likelihood of disease among women infected with HTLV-III/LAV in association with pregnancy. The counselling and testing must be conducted in an environment in which confidentiality can be assured. In settings where confidential counselling and testing cannot be assured, information should be provided and referrals made to appropriate facilities.

Frequency of Testing. Detectable antibodies to HTLV-III/LAV may not develop until 2-4 months after exposure. This, and whether the woman is continuously exposed, should be taken into account when considering the need for, and frequency of, repeat testing. High-risk women should be offered counselling and testing before they become pregnant. During pregnancy, counselling and testing should be offered as soon as the woman is known to be pregnant. If the initial test is negative, repeat testing may be indicated near delivery to aid in the clinical management of the pregnant woman and newborn. If this final test is negative and the mother's risk of exposure no longer exists, she may safely consider breastfeeding the child, and management of the child need not include the same concerns that would be appropriate if the woman had had a positive test or if she were at high risk and had not been tested at all.

Counselling Women with Positive Results. Women with virologic or serologic evidence of HTLV-III/LAV infection should be counselled regarding their own risk of AIDS and the risk of perinatal and sexual transmission of HTLV-III/LAV. Infected women should be counselled to refer their sex partners for counselling and testing. If the partners of these women are not infected, both members of the couple should be counselled on how they may modify their sexual practices to reduce the risk of HTLV-III/LAV transmission to the uninfected partner. In addition, the couple should be told not to donate blood, organs, or sperm and should be discouraged from using IV drugs and advised against sharing needles and syringes. When seeking medical or dental care for intercurrent illness, they should inform those responsible for their care of their positive antibody status so appropriate evaluation can be undertaken. Recommendations for providing information and advice to individuals infected with HTLV-III/LAV have been published (*25*).

Infected women should be advised to consider delaying pregnancy until more is known about perinatal transmission of the virus. Pregnant infected women may require additional medical and social support services due to an enhanced risk of opportunistic infections and psychosocial difficulties during and after pregnancy. Obstetric-care providers should be alert to signs and symptoms of HTLV-III/LAV and related opportunistic infections in these pregnant women and to the need for specialized medical care.

HTLV-III/LAV-infected women should be advised against breastfeeding to avoid postnatal transmission to a child who may not yet be infected. The child should receive follow-up pediatric evaluations to determine whether he/she has HTLV-III/LAV infection, and to diagnose and treat promptly any diseases that may be secondary to HTLV-III/LAV infection. Recommendations for educating and providing foster care for infected children have been published (*26*).

Counselling Women with Negative Test Results. A negative ELISA for HTLV-III/LAV antibody in women who have no clinical or laboratory evidence of HTLV-III/LAV infection is evidence that they have probably not been infected. However, uninfected women who have sex

HTLV-III/LAV – Continued

partners with evidence of HTLV-III/LAV infection or with an increased risk of becoming infected should be informed that sexual intercourse increases their risk of infection. These women should be informed of the risks associated with pregnancy if they become infected and advised to consider delaying pregnancy until more is known about perinatal transmission of the virus or until they are no longer considered to be at risk for acquiring the virus. In addition to preventing pregnancy, the consistent and proper use of condoms can offer some protection against HTLV-III/LAV infection.

High-risk women, even if seronegative, should be told not to donate blood or organs. To decrease their risk of becoming infected, IV drug abusers should be encouraged to seek treatment for their drug abuse. Persons counselling IV drug abusers should know that IV drug abuse is often strongly ingrained and compulsive. Despite educational efforts and encouragement for treatment, some addicts will continue to abuse drugs or relapse after treatment. If drug abuse continues, they should be advised not to share needles or syringes and to use only sterile equipment.

HTLV-III/LAV – Continued

Additional Considerations. These recommendations will be revised as additional information becomes available. It is recognized that provision of the recommended professional counselling, HTLV-III/LAV-antibody testing and associated specialized medical services will take time to implement and may stress available resources, particularly in public facilities, which are most greatly affected. Health-care providers, social-service personnel, and others involved in educating and caring for HTLV-III/LAV-infected persons should be aware of the potential for social isolation and should be sensitive to the need for confidentiality. They should be familiar with federal and state laws, regulations, and policies that protect the confidentiality of clinical data and test results. Each institution should assure that specific mechanisms are in place to protect the confidentiality of all records and to prevent the misuse of information. Anonymous testing would not be appropriate if it prevents adequate counselling and medical follow-up evaluation.

Hospital precautions for managing infected women and infants should be patterned after those for caring for patients with HTLV-III/LAV infection (*27,28*). Additional recommendations will follow.

DEVELOPMENT OF THESE RECOMMENDATIONS

The information and recommendations contained in this document were developed and compiled by CDC and the U.S. Public Health Service in consultation with individuals representing: the Conference of State and Territorial Epidemiologists, the Association of State and Territorial Health Officials, the American Public Health Association, the United States Conference of Local Health Officers, the American Medical Association, the American College of Obstetricians and Gynecologists, the American Academy of Pediatrics, the Planned Parenthood Federation of America, the American Venereal Disease Association, the Division of Maternal and Child Health of the Health Resources and Services Administration, the National Institute on Drug Abuse of the Alcohol, Drug Abuse, and Mental Health Administration, the National Hemophilia Foundation, the Haitian Medical Association, the American Bar Foundation, and the Kennedy Institute of Ethics at Georgetown University. The consultants also included representatives of the departments of health of the areas with the largest number of perinatally transmitted pediatric AIDS cases: New York City, Florida, and New Jersey. These recommendations may not reflect the views of all individual consultants or the organizations they represented.

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CHAPTER 22

An act to add Chapter 1.11 (commencing with Section 199.20) to Part 1 of Division 1 of the Health and Safety Code, relating to health, and declaring the urgency thereof, to take effect immediately.

[Approved by Governor April 3, 1985. Filed with Secretary of State April 4, 1985.]

LEGISLATIVE COUNSEL'S DIGEST

AB 403, Agnos. Health.

(1) Existing law provides that the results of specified blood tests shall be confidential and not open to public inspection.

This bill, in addition to existing law, would provide that no person shall be compelled, as specified, to identify any individual who is the subject of a blood test to detect antibodies to the probable causative agent of acquired immune deficiency syndrome. The bill would provide penalties for disclosure, as defined, of the results of the blood test, as defined, except as specified, including the assessing of civil penalties and the creation of a new misdemeanor. It would establish a right of action for actual damages. Creation of a new misdemeanor constitutes a state-mandated local program.

This bill would permit the State Department of Health Services to require blood banks and plasma centers to submit reports summarizing data concerning tests to detect the presence of viral hepatitis and antibodies to the probable causative agent of AIDS, as specified.

It would prohibit a person, except as specified, from testing a person's blood for evidence of antibodies to the probable causative agent of AIDS without the written consent of the subject.

This bill would prescribe that the results of the blood test not be used in any instance for the determination of insurability or suitability for employment.

It would also prescribe that neither the state department nor any blood bank or plasma center, including a blood bank or plasma center operated by a public entity, be liable for any damages resulting from a specified notification of test results.

(2) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement, including the creation of a State Mandates Claims Fund to pay the costs of mandates which do not exceed $500,000 statewide and other procedures for claims whose statewide costs exceed $500,000.

This bill would provide that no reimbursement shall be made from the State Mandates Claims Fund for costs mandated by the state

pursuant to this act, but would recognize that local agencies and school districts may pursue any available remedies to seek reimbursement for some of these costs.

This bill would provide that, notwithstanding Section 2231.5 of the Revenue and Taxation Code, this bill does not contain a repealer, as required by that section; therefore, the provisions of the bill would remain in effect unless and until they are amended or repealed by a later enacted bill.

The bill would take effect immediately as an urgency statute.

The people of the State of California do enact as follows:

SECTION 1. Chapter 1.11 (commencing with Section 199.20) is added to Part 1 of Division 1 of the Health and Safety Code, to read:

CHAPTER 1.11. MANDATED BLOOD TESTING AND CONFIDENTIALITY TO PROTECT PUBLIC HEALTH

199.20. To protect the privacy of individuals who are the subject of blood testing for antibodies to the probable causative agent of acquired immune deficiency syndrome (AIDS) the following shall apply:

Except as provided in Section 1603.1 or 1603.3, as amended by AB 488 of the 1985–86 Regular Session, no person shall be compelled in any state, county, city, or other local civil, criminal, administrative, legislative, or other proceedings to identify or provide identifying characteristics which would identify any individual who is the subject of a blood test to detect antibodies to the probable causative agent of AIDS.

199.21. (a) Any person who negligently discloses results of a blood test to detect antibodies to the probable causative agent of acquired immune deficiency syndrome to any third party, except pursuant to a written authorization, as described in subdivision (g), or except as provided in Section 1603.1 or 1603.3, as amended by AB 488 of the 1985–86 Regular Session, shall be assessed a civil penalty in an amount not to exceed one thousand dollars ($1,000) plus court costs, as determined by the court, which penalty and costs shall be paid to the subject of the test.

(b) Any person who willfully discloses the results of a blood test to detect antibodies to the probable causative agent of the acquired immune deficiency syndrome, to any third party, except pursuant to a written authorization, as described in subdivision (g), or except as provided in Section 1603.1 or 1603.3, as amended by AB 488 of the 1985–86 Regular Session, shall be assessed a civil penalty in an amount not less than one thousand dollars ($1,000) and not more than five thousand dollars ($5,000) plus court costs, as determined by the court, which penalty and costs shall be paid to the subject of the test.

(c) Any person who willfully or negligently discloses the results of

a blood test to detect antibodies to the probable causative agent of acquired immune deficiency syndrome to a third party, except pursuant to a written authorization, as described in subdivision (g), or except as provided in Section 1603.1 or 1603.3, as amended by AB 488 of the 1985–86 Regular Session, which results in economic, bodily, or psychological harm to the subject of the test, is guilty of a misdemeanor, punishable by imprisonment in the county jail for a period not to exceed one year or a fine of not to exceed ten thousand dollars ($10,000) or both.

(d) Any person who commits any act described in subdivision (a) or (b) shall be liable to the subject for all actual damages, including damages for economic, bodily, or psychological harm which is a proximate cause of the act.

(e) Each disclosure made in violation of this chapter is a separate and actionable offense.

(f) The results of a blood test to detect antibodies to the probable causative agent of acquired immune deficiency syndrome shall not be used in any instance for the determination of insurability or suitability for employment.

(g) "Written authorization," as used in this section, applies only to the disclosure of test results by a person responsible for the care and treatment of the person subject to the test. Written authorization is required for each separate disclosure of the test results, and shall include to whom the disclosure would be made.

(h) Nothing in this section limits or expands the right of an injured subject to recover damages under any other applicable law.

(i) Nothing in this section shall be construed to impose liability or criminal sanction for disclosure of a blood test to detect antibodies to the probable causative agent of AIDS in accordance with any reporting requirement for a diagnosed case of AIDS by the state department or the Centers for Disease Control under the United States Public Health Services.

(j) The state department may require blood banks and plasma centers to submit monthly reports summarizing statistical data concerning the results of tests to detect the presence of viral hepatitis and antibodies to the probable causative agent of AIDS. This statistical summary shall not include the identity of individual donors or identifying characteristics which would identify individual donors.

(k) "Disclosed," as used in this section, means to disclose, release, transfer, disseminate, or otherwise communicate all or any part of any record orally, in writing, or by electronic means to any person or entity.

(*l*) "Results of a blood test," as used in this section, means to identify or provide identifying characteristics of the person to whom the results apply.

199.22. No person shall test a person's blood for evidence of antibodies to the probable causative agent of AIDS without the written consent of the subject of the test, and the person giving the

test shall have a written statement signed by the subject confirming that he or she obtained the consent from the subject.

This requirement does not apply to a test performed at an alternative site, as established pursuant to Article 8 (commencing with Section 1630) of Chapter 4 of Division 2. This requirement also does not apply to any blood and blood products specified in paragraph (2) of subdivision (a) of Section 1603.1, as amended by Assembly Bill 488 of the 1985–86 Regular Session.

199.23. Neither the state department nor any blood bank or plasma center, including a blood bank or plasma center owned or operated by a public entity, shall be held liable for any damages resulting from the notification of test results, as set forth in paragraph (3) of subdivision (a) of, and in subdivision (c) of, Section 1603.3, as amended by AB 488 of the 1985–86 Regular Session.

SEC. 2. (a) No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because part of the costs which may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, changes the definition of a crime or infraction, changes the penalty for a crime or infraction, or eliminates a crime or infraction.

(b) No reimbursement shall be made from the State Mandates Claims Fund pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code for costs mandated by the state pursuant to this act. It is recognized, however, that a local agency or school district may pursue any remedies to obtain reimbursement available to it under Part 7 (commencing with Section 17500) and any other provisions of law.

SEC. 3. Notwithstanding Section 2231.5 of the Revenue and Taxation Code, this act does not contain a repealer, as required by that section; therefore, the provisions of this act shall remain in effect unless and until they are amended or repealed by a later enacted act.

SEC. 4. This act is an urgency statute necessary for the immediate preservation of the public peace, health, or safety within the meaning of Article IV of the Constitution and shall go into immediate effect. The facts constituting the necessity are:

In order to protect the confidentiality of persons undergoing a blood test for the detection of anitbodies to acquired immune deficiency syndrome, and to encourage individuals who are stricken with the disease to undergo treatment which would ultimately benefit the health and welfare of all citizens of the State of California, it is necessary that this act take immediate effect.

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AIDS Among Intravenous Drug Users - San Francisco

Two hundred fifty-eight cases of acquired immunodeficiency syndrome (AIDS) involving patients with histories of intravenous drug use were reported to the San Francisco Department of Public Health by April 30, 1986, comprising 13% of all reported AIDS cases. Two hundred thirty-nine (93%) patients were gay or bisexual men, 14 (5%) were heterosexual men, and 5 (2%) were heterosexual women. An additional 5 cases of secondary spread have been reported, 2 to sexual contacts of heterosexual intravenous drug users and 3 to children of heterosexual intravenous drug users by perinatal transmission. Cases among gay and bisexual intravenous drug users peaked in late 1984 and early 1985 while cases among heterosexual intravenous drug users are continuing to rise (Figure 1).

Gay and bisexual intravenous drug users were similar to non-intravenous-drug-using gay and bisexual men in terms of race, census tract of residence, and disease manifestation, but tended to be younger [59/239(25%) ≤29 years old v. 220/1668(13%)X^2=21.21, $p<.001$]. Heterosexual intravenous drug users differed significantly from gay and bisexual intravenous drug users in terms of race and disease manifestation (Tables 1,2). Sixty-three percent of heterosexuals were non-white compared to only 10% of homosexuals and bisexuals (X^2=38.58, $p<.001$), and all but one of the heterosexuals had either Pneumocystis carinii pneumonia without Kaposi's sarcoma or other opportunistic infections compared to 63% of homosexuals and bisexuals (X^2=7.70, $p<.01$). Gay and bisexual intravenous drug users were concentrated in the Tenderloin, South-of-Market, Duboce Triangle, and Castro districts. Of the 15 heterosexual intravenous-drug-using AIDS patients residing in San Francisco, 6 (40%) lived in the Tenderloin and South-of-Market areas.

Editorial note: Nationally, 25% of all AIDS patients have histories of intravenous drug use (1) as compared to the 13% reported in San Francisco. This difference is due to a large number of cases among heterosexual intravenous drug users, primarily reported from eastern cities, which comprise 17% of the national total as compared to 1% in San Francisco. The proportion of gay and bisexual men with histories of intravenous drug use is similar nationally (11%) and locally (12%).

It is estimated that there are approximately 12,000 intravenous drug users in San Francisco of whom 7,000 are heroin users (J.A. Newmeyer, personal communication) and that in 1985 9% of heroin users entering treatment in San Francisco were seropositive (2). The current low prevalence of infection in heroin users in San Francisco as compared to New York and New Jersey (3), suggests that there is potential for widespread infection in this group if aggressive prevention strategies are not undertaken. Proposed strategies have included mass and street-level risk-reduction education, increasing the availability of detoxification and methadone maintenance, and increasing the availability of sterile needles and syringes (3-6). Risk-reduction education should focus on preventing intravenous drug use, preventing the sharing of needles, and at a minimum, preventing the sharing of non-disinfected needles. Efforts are underway both nationally and locally to evaluate the effectiveness of these various interventions.

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Figure 1. AIDS Cases by Sexual Orientation and Quarter of Diagnosis, Intravenous Drug Users, San Francisco, 1981 - 1986

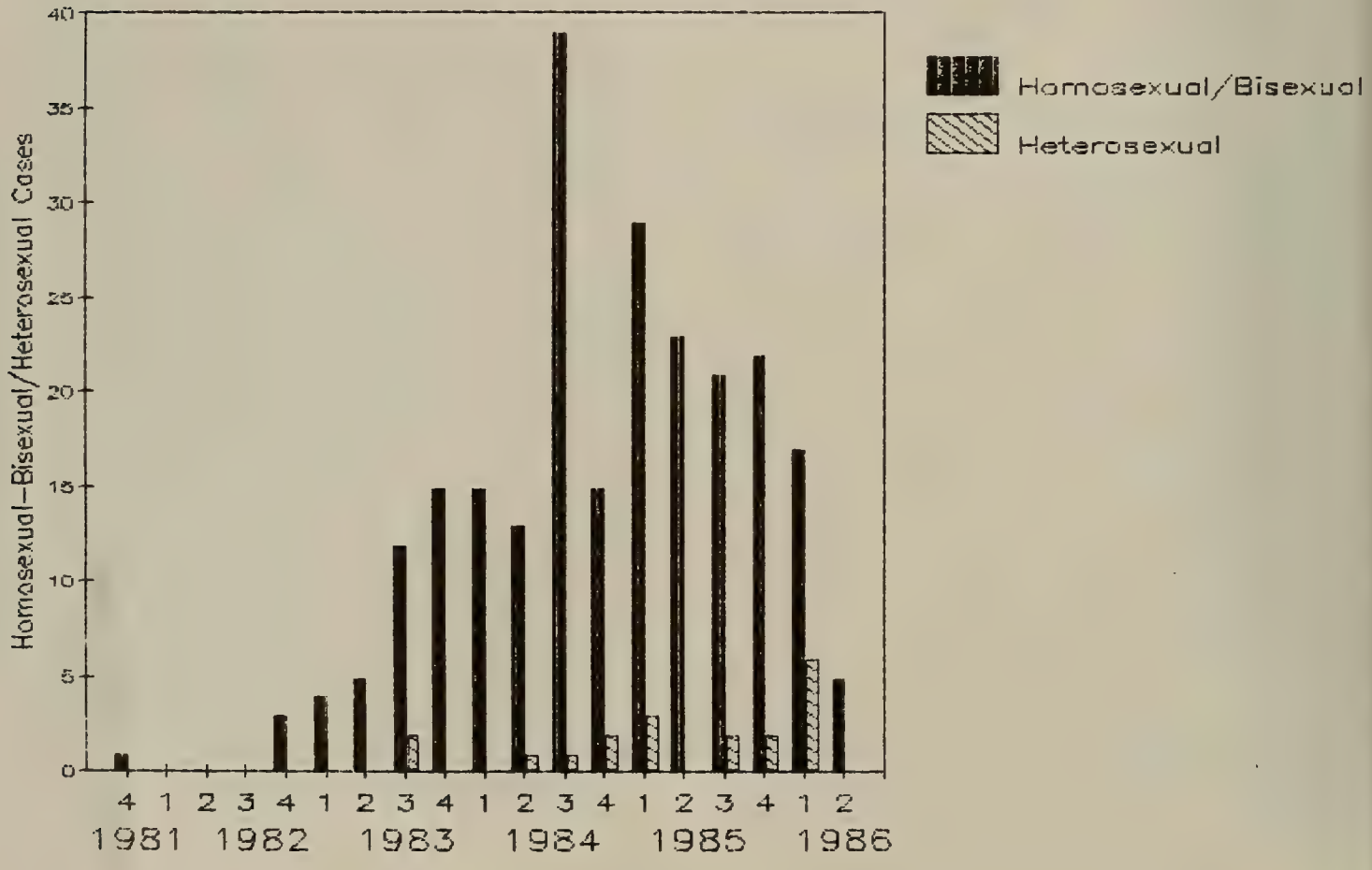

Table 1

AIDS Cases by Race and Sexual Orientation,
Intravenous Drug Users, San Francisco, 1979-1986

Race	Sexual Orientation: Homosexual/Bisexual	Sexual Orientation: Heterosexual	Total
White	216 (90)	7 (37)	223 (86)
Black	16 (7)	8 (42)	24 (9)
Hispanic	6 (3)	3 (16)	9 (3)
Asian	1 (<1)	1 (5)	2 (1)
Total	239	19	258

Table 2

AIDS Cases by Diagnosis and Sexual Orientation,
Intravenous Drug Users, San Francisco, 1979-1986

Diagnoses*	Sexual Orientation: Homosexual/Bisexual	Sexual Orientation: Heterosexual	Total
KS without PCP	58 (24)	1 (5)	59 (23)
PCP without KS	122 (51)	9 (47)	131 (51)
KS with PCP	36 (15)	0	36 (14)
Other Opportunistic Infections	23 (10)	9 (47)	32 (12)
Total	239	19	258

* KS = Kaposi's sarcoma, PCP = Pneumocystis carinii pneumonia.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING March 29, 1986

DISEASE	CASES REPORTED WEEKS 10 THROUGH 13			TOTAL CASES REPORTED TO DATE		
	1984	1985	1986	1984	1985	1986
AIDS	34	69	70	108	193	246
AMEBIASIS	57	45	51	162	196	175
CAMPYLOBACTER	14	21	50	66	65	143
COCCIDIOIDOMYCOSIS		1			1	
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	79	75	78	204	181	162
GIARDIASIS	20	31	43	48	136	126
GONORRHEA	667	696	532	2188	1994	1420
HEPATITIS Type A	8	20	16	21	42	45
HEPATITIS Type B	22	14	28	68	66	46
HEPATITIS Non A-Non B	4	4	3	13	7	11
HEPATITIS Type Unspecified	2	2	1	3	11	4
LEPROSY		-	1		8	5
MALARIA	2	1	4	9	5	9
MEASLES	1		-	1		1
MENINGITIS, BACTERIAL	3	1	-	3	6	1
MENINGITIS, VIRAL	3	2	2	6	3	2
MUMPS	1	2	1	6	2	1
PERTUSSIS						
PSITTACOSIS		-			2	
RUBELLA						
SALMONELLOSIS	6	11	18	46	40	59
SHIGELLOSIS	26	26	36	100	74	92
SYPHILIS, Total	147	123	76	400	319	224
SYPHILIS, Primary & Secondary	80	71	31	223	177	106
TUBERCULOSIS (all forms)	21	18	19	48	63	66
TYPHOID FEVER	1	-	-	1	1	1
Total deaths reported this period		608	589		2431	2205
Deaths from pneumonia this period		26	16		119	85

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Tuberculosis and Acquired Immunodeficiency Syndrome, San Francisco, 1981 - 1985

Thirty-one patients with both culture-proven *Mycobacterium tuberculosis* infection and acquired immunodeficiency syndrome (AIDS) were reported to the Department of Public Health between 1981 and 1985. The incidence of tuberculosis in AIDS patients (1,902 cases per 100,000 population) was significantly higher than the incidence of tuberculosis in the San Francisco residents without AIDS (44.7 cases per 100,000, $p < .001$). The largest number of cases was reported in 1984 (Figure 1), but it is likely that additional patients diagnosed with tuberculosis in 1985 will subsequently develop AIDS.

Patients with tuberculosis and AIDS ranged in age from 19 to 58 years, with the median age of 36 years. All were male. Twenty (65%) were white, 5 (16%) were black, 5 (16%) were Hispanic, and 1 (3%) was Asian. Twenty-five (81%) were American born, 2 (6%) were born in Mexico, and 1 (3%) each was born in the Dominican Republic, Cuba, Puerto Rico, and the United Kingdom. Tuberculosis patients with AIDS were significantly less likely to be foreign born than tuberculosis patients without AIDS (19% v. 72%, $p < .001$).

When compared to AIDS patients who did not have tuberculosis, AIDS patients with tuberculosis were significantly more likely to be non-white and to have a history of intravenous drug use (Table 1). There were no differences in initial AIDS diagnoses, but survival tended to be shorter in AIDS patients with tuberculosis than in AIDS patients without tuberculosis. In about one-half of the cases, tuberculosis was diagnosed before AIDS (Figure 2).

To define clinical characteristics of tuberculosis in AIDS patients, patients with AIDS and tuberculosis were compared to age, sex, and race-matched tuberculosis patients without AIDS (Table 2). Fifty-five percent of tuberculosis in AIDS patients was extra-pulmonary compared with 29% in controls. Sites of extra-pulmonary tuberculosis included lymph nodes (cervical and axillary), liver, kidney, bone marrow, blood, and cerebrospinal fluid. In the presence of AIDS, the PPD skin test was unreliable with only 32% of culture-positive patients showing a significant reaction. Chest roentgenograms were available for evaluation in 18 cases. Diffuse or miliary infiltrates were present in 11 (61%) cases, intrathoracic (hilar or mediastinal) adenopathy was present in 4 (22%), focal infiltrates in 6 (33%; 1 with a cavity) and pleural effusion in 4 (22%). One chest roentgenogram was normal at the time the sputum was positive for *Mycobacterium tuberculosis*.

Tuberculosis in AIDS patients responded well to standard chemotherapy. Sputum-positive tuberculosis patients with AIDS converted to negative in the same time period as other tuberculosis patients. Adenopathy improved promptly, and most patients regained weight. Six (19%) AIDS patients had adverse reactions to anti-tuberculosis medications, in contrast to 2 (6%) tuberculosis patients without AIDS. Twelve-month mortality was high despite the favorable course of tuberculosis, and was due to other AIDS related diseases.

Editorial Note: AIDS is a significant risk factor for tuberculosis (1-3). The risk of tuberculosis for patients with AIDS-related complex (ARC) or for those infected with human immunodeficiency virus (HIV) but without symptoms is not known, but is probably also higher than in the population as a whole. For this reason, individuals in high-risk groups for AIDS and HIV infection who have a significant PPD reaction should receive isoniazid chemoprophylaxis regardless of age. Patients with AIDS, ARC, and asymptomatic HIV infection should be evaluated for tuberculosis whenever pulmonary adenopathy, pulmonary pathology, or persistent fevers are present. Patients with sputum-positive tuberculosis, regardless of whether they have HIV infection or not, can transmit tuberculosis, and should be considered contagious and have their contacts evaluated for exposure. After two weeks of anti-tuberculosis medications, patients are non-contagious and isolation can be discontinued.

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Figure 1.

AIDS AND TUBERCULOSIS CASES
BY QUARTER OF TUBERCULOSIS DIAGNOSIS
SAN FRANCISCO, 1981 - 1985

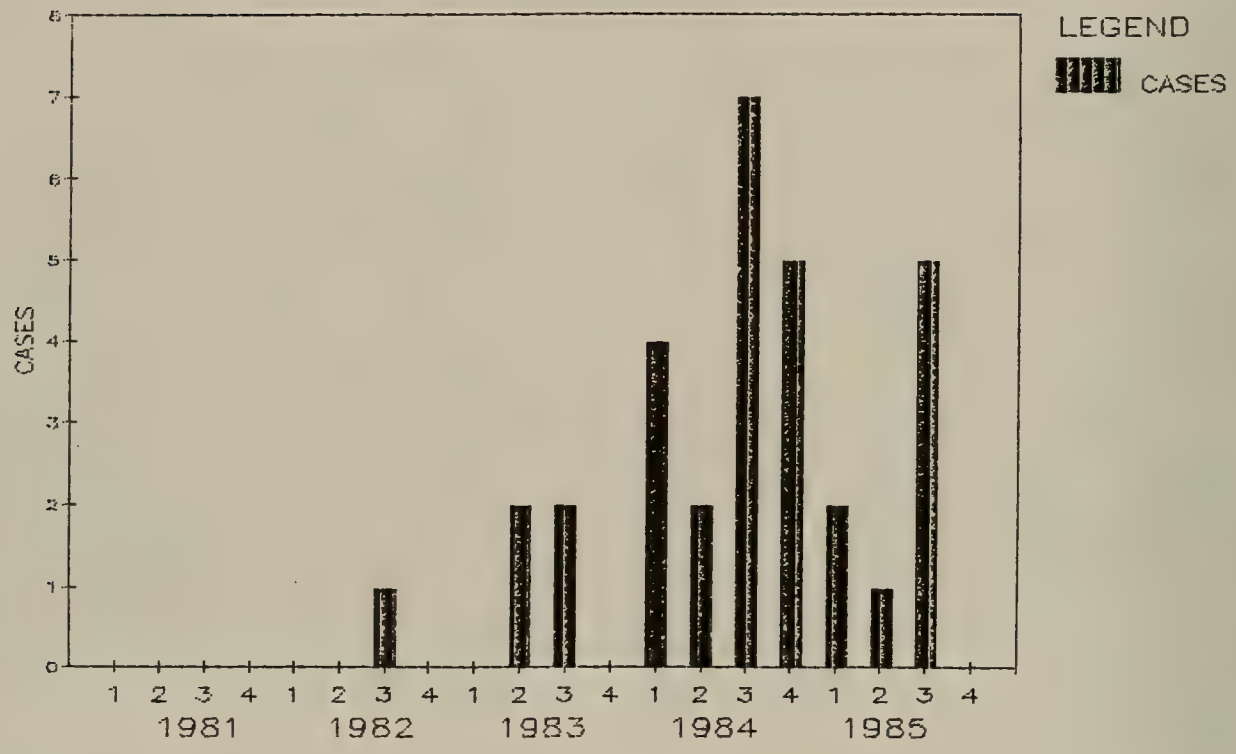

Table 1.

DEMOGRAPHIC CHARACTERISTICS OF PATIENTS WITH AIDS
WITH AND WITHOUT TUBERCULOSIS, AND TUBERCULOSIS WITH AND WITHOUT AIDS

	AIDS, no TB	AIDS and TB	TB, no AIDS
	(n=1,670)	(n=31)	(n=1,531)
Age, Years (median)	36	36	46
Sex, Male (%)	99	100	62
Foreign-Born (%)	not available	19	72
Race and Ethnicity (%)			
White	88*	65*	14
Black	5	16	12
Hispanic	6	16	10
Asian	1	3	63
Other	0	0	1

* $p < .001$

Figure 2.

AIDS AND TUBERCULOSIS CASES BY MONTHS
FROM AIDS DIAGNOSIS TO TUBERCULOSIS DIAGNOSIS,
SAN FRANCISCO, 1981 - 1985

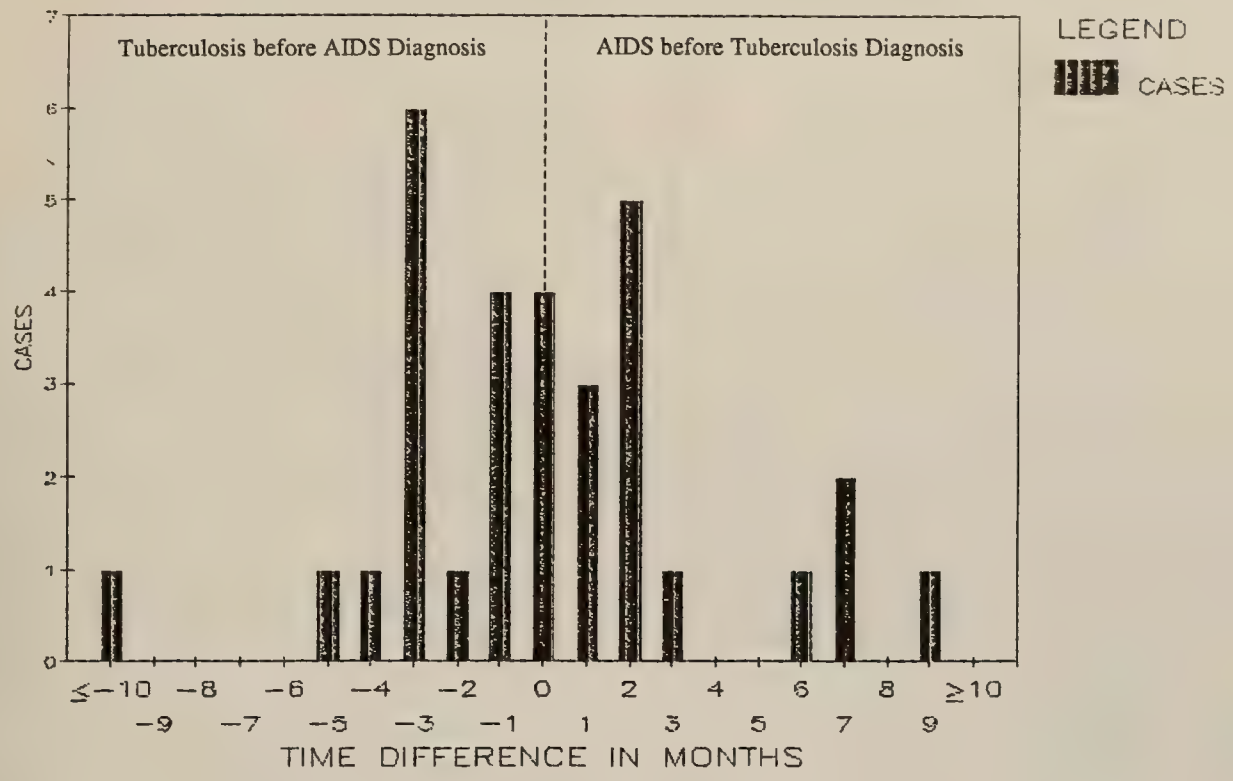

Table 2.

CLINICAL CHARACTERISTICS OF TUBERCULOSIS IN PATIENTS WITH AND WITHOUT AIDS

	TB with AIDS (n=31)	TB, no AIDS (n=31)	
	%	%	
Site of Tuberculosis, Extra-pulmonary	55	29	p <.005
PPD ≥ 10 mm	32	90	p <.001
Adverse Reaction to Chemotherapy	19	6	n.s.
Survival at 12 Months after Diagnosis of Tuberculosis	32	90	
Roentgenographic Findings (n=18)			
Miliary or Diffuse Infiltrates	61		
Intrathoracic Adenopathy	22		
Focal Infiltrates (Cavitary)	33 (5)		
Effusion	22		
Normal	5		

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING May 3, 1986

DISEASE	CASES REPORTED WEEKS 14 THROUGH 18			TOTAL CASES REPORTED TO DATE		
	1984	1985	1986	1984	1985	1986
AIDS	37	70	97	148	263	343
AMEBIASIS	70	114	67	232	310	242
CAMPYLOBACTER	5	58	67	73	123	210
COCCIDIOIDOMYCOSIS		1			2	
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	93	49	84	297	230	246
GIARDIASIS	19	45	36	67	181	162
GONORRHEA	759	696	612	2947	2690	2032
HEPATITIS Type A	8	15	8	29	57	53
HEPATITIS Type B	19	19	21	87	85	67
HEPATITIS Non A-Non B	4	3	5	17	12	16
HEPATITIS Type Unspecified	6	–	1	9	11	5
LEPROSY		7	–		15	5
MALARIA	7	3	1	16	8	10
MEASLES	10		1	11		2
MENINGITIS, BACTERIAL	–	–	1	3	6	3
MENINGITIS, VIRAL	–	–	1	6	3	3
MUMPS	2	1	1	8	3	2
PERTUSSIS						
PSITTACOSIS		–			2	
RUBELLA		1	3		1	3
SALMONELLOSIS	9	18	18	55	58	77
SHIGELLOSIS	44	40	43	144	114	135
SYPHILIS, Total	149	95	94	549	414	318
SYPHILIS, Primary & Secondary	80	60	43	303	237	149
TUBERCULOSIS (all forms)	34	29	34	82	92	100
TYPHOID FEVER	1	1	1	2	2	2
Total deaths reported this period		828	747		3259	2952
Deaths from pneumonia this period		28	29		147	114

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CHRONIC FATIGUE POSSIBLY RELATED TO EPSTEIN-BARR VIRUS - NEVADA*

From November 1984 through August 1985, approximately 90 patients evaluated for persistent fatigue were diagnosed as having chronic Epstein-Barr virus (CEBV) disease by a two-physician community internal medicine practice near Lake Tahoe, Nevada. The diagnoses were made by detecting antibody to the diffuse (EA-D) or the restricted (EA-R) components of early antigen of EBV, as suggested by two recent studies (1,2).

Because of controversy about whether CEBV disease exists, two serologic studies were conducted to evaluate whether a syndrome of chronic fatigue could be statistically associated with a specific pattern of antibody titers against EBV. Fifteen "case" patients, felt to be the most likely to have CEBV, were identified by interviewing 134 of the 139 patients tested for EBV serology in the internal medicine practice between January 1, and August 20, 1985. By definition, these patients had persistent or relapsing unexplained fatigue for at least 2 months, which forced them to stop usual daily activities for at least 2 weeks. Other less universal symptoms included intermittent low-grade fever, sore throat, myalgias, arthralgias, and headaches. All 15 patients were white; 13 were female. The median age was 40 years (range 13-52 years).

In the first serologic study, the 15 patients were compared with 118 of the 119 patients who had serologic testing for EBV (the serologic test results on one patient were not available). All 118 of these patients were white; 79 (66.9%) were female. The median age was 36 years (range 10-71 years). The case patients were more likely to have reciprocal EA-D titers of 160 or higher (45.5%, compared with 11.6%; p=0.014) and EBV viral capsid antigen IgG (VCA-IgG) 160 or greater (80.0%, compared with 51.7%; p=0.033) in the first serum tested. No evidence of acute EBV infection, manifested by positive IgM titers to VCA, was detected in either the cases or the others tested.

Detailed information on physical findings was obtained for all 15 case patients and from 11 of 18 other patients whose duration and severity of illness met the clinical case criteria but who, on review of their medical records, had other possible etiologies. Palpable splenomegaly was noted at some time during the illnesses of 13 of the 15 case patients and two of the 11 other patients (p=0.0002).

In the second serologic study, blood specimens for EBV serologic testing were collected in October 1985 from the 15 case patients and from 30 age-, sex-, and race-matched controls. The controls consisted of patients and office workers who had no complaints of fatigue and had not previously undergone EBV serologic testing. The sera were tested simultaneously by the commercial reference laboratory used by the two physcians, by the EBV laboratory at CDC, and by a laboratory at Georgetown University in Washington, D.C. Case patients tended to have higher titers of VCA-IgG and of anti-EA than controls, but the specific test results and the tests in which the differences were significant varied considerably among the laboratories.

IgG antibody titers to herpes simplex virus (HSV) types 1 and 2 and cytomegalovirus (CMV) were also measured. Case patients had significantly higher CMV titers than controls, both by indirect hemagglutination (reciprocal geometric mean titer [GMT] 292, compared with 31, p=0.046) and by enzyme immunoassay (GMT 276, compared with 74; p=0.04). Case patients also tended to have higher titers to HSV-1 (GMT 154, compared with 82) and to HSV-2 (GMT 140, compared with 34).

To help evaluate the reproducibility of the EBV serologic test results within

a single laboratory, 19 sera, obtained earlier from 12 of the case patients and subsequently frozen, were retested in the same laboratory. Fourfold or greater variations between the initial and repeated titers were detected in 17.6% of the samples tested for anti-EA-D, 26.3% tested for VCA-IgG and 33.3% tested for anti-EA-R. All sera with fourfold or greater changes in anti-EA-D or VCA-IgG had a decrease in titer with the repeat testing, and all those with changes in anti-EA-R had increased titers.

Editorial Note: In January 1985, two publications reported the association of a chronic, mononucleosis-like illness with evidence of persistent active Epstein-Barr virus activity among young, previously healthy adults (1,2). These patients had no other discernible cause for their illnesses, and many demonstrated an apparently unusual pattern of anti-EBV antibodies when compared with controls. However, several questions have been raised about these studies, including whether CEBV actually exists (3-5).

In the Nevada investigation, the 15 case patients were more likely to have abnormal EBV serologic markers than other patients, and, in addition to increased fatigue, were more likely to have palpable splenomegaly. These findings suggest that, as a group, these patients have an abnormality, or abnormalities, associated in some way with high antibody titers to EBV and CMV.

The study highlights several problems associated with the diagnosis of CEBV. First, the clinical syndrome is comprised of a wide range of nonspecific symptoms, and is inadequate for diagnosing CEBV without a confirmatory laboratory test.

Second, "elevated" anti-EBV serologic titers do not prove that a chronic illness in an individual is due to EBV. There is a great deal of overlap in the antibody titers of case patients and the general population, indicating that "normal" titers can vary substantially. In a recently published study, several asymptomatic persons followed for up to 8 years after recovery from acute infectious mononucleosis maintained anti-EA titers well into the range considered to indicate CEBV (6).

Third, the reproducibility of the serologic tests for EBV is poor, both within and between laboratories. The currently available indirect immunofluorescence technique for EBV serologic tests necessitates a subjective measurement of the fluorescence produced and is subject to variability between cell lots and between individual technicians. Comparability of titers can only be confirmed by testing specimens in parallel.

Currently available data neither prove nor disprove the hypothesis that EBV activity is responsible for chronic illness, but it is clear that the diagnosis of CEBV using current clinical and laboratory criteria in an individual patient is unreliable. Further examinations of immune function in these patients, as well as studies for other possible etiologies, are needed to define this syndrome and provide a framework for epidemiologic and therapeutic studies.

In the meantime, CEBV should be a diagnosis of exclusion. Physicians evaluating patients thought to have CEBV should continue to search for the more definable, and possible treatable, conditions that may be responsible for their symptoms, such as endocrine and autoimmune diseases; malignancies; chronic heart, liver, kidney, and pulmonary disease; anxiety and depression; and chronic infectious diseases, such as CMV and tuberculosis.

The patients reported here are only a portion of the cases reported to CDC with chronic, often severe, debilitating disease diagnosed as CEBV. Further etiologic studies are indicated, including known viruses such as EBV, CMV, and adenoviruses, in addition to viruses which have not yet been identified. Once the syndrome is better defined, epidemiologic and therapeutic studies can be initiated.

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patients with persistent, unexplained illnesses: elevated anti-early antigen antibodies. Ann Intern Med 1985;102:1-7.
2. Straus SE, Tosato G, Armstrong G, et al. Persisting illness and fatigue in adults with evidence of Epstein-Barr virus infection. Ann Intern Med 1985; 102:7-16.
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5. Merlin TL. Chronic mononucleosis: pitfalls in the laboratory diagnosis. Hum Pathol 1986;17:2-8.
6. Horwitz CA, Henle W, Henle G, Rudnick H, Latts E. Long-term serological follow-up of patients for Epstein-Barr virus after recovery from infectious mononucleosis. J Infect Dis 1985; 151:1150-3.

*Reprinted from MMWR 1986 May 30;35(21): 350-2.

San Francisco Comment: On April 15, 1986, the San Francisco Health Commission held a public hearing on CEBV Syndrome, with presentations by patients, physicians and public advocates. A number of possibilities for action on CEBV Syndrome in San Francisco were suggested. These included the development of a referral system for patients and their physicians if the diagnosis is under consideration, and monitoring and dissemination of the growing body of published information on the Syndrome. The San Francisco Department of Public Health's Bureau of Communicable Disease Control may be contacted at 558-4046 for referral to physicians in the San Francisco area with interest and expertise in Chronic Epstein-Barr Virus Syndrome.

AMANTADINE FOR INFLUENZA TYPE A PROPHYLAXIS IN MEDI-CAL ELIGIBLE PATIENTS

State regulations have recently been revised to add amantadine to the Medi-Cal Drug Formulary. This change allows physicians to immediately prescribe amantadine for their Medi-Cal eligible patients for influenza A prophylaxis and/or treatment without obtaining prior authorization. This change was necessary because, to be effective, amantadine must be given very promptly in the event of exposure to known or presumptive influenza A infection in order to protect persons at high-risk from influenza, such as nursing home residents or persons with significant chronic cardiopulmonary conditions. Amantadine, of course, will not prevent influenza B disease.

Source: California Morbidity, No. 18 May 9, 1986.

NOTICE TO READERS

Henry A. Renteln, M.D., M.P.H., the Chief of General Communicable Disease Control for the Bureau of Communicable Disease Control, and a frequent contributor to the San Francisco Epidemiologic Bulletin will retire from the Bureau on July 31, 1986. His career in public health has been distinguished by scholarship, academic achievement, and dedication to the public health of San Franciscans and all Californians.

Frances Taylor, M.D., M.P.H., will be joining the Bureau and assuming his responsibilities. She has most recently been the Medical Director of the AIDS Program for the New Jersey State Department of Health.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING May 31, 1986

DISEASE	CASES REPORTED WEEKS 19 THROUGH 22			TOTAL CASES REPORTED TO DATE		
	1984	1985	1986	1984	1985	1986
AIDS	36	62	83	184	325	426
AMEBIASIS	77	78	49	309	388	291
CAMPYLOBACTER	23	58	44	96	181	254
COCCIDIOIDOMYCOSIS	1	1		1	3	
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	66	98	95	363	328	341
GIARDIASIS	13	43	34	80	224	196
GONORRHEA	559	458	392	3506	3148	2424
HEPATITIS Type A	7	11	10	36	68	63
HEPATITIS Type B	21	9	10	108	94	76
HEPATITIS Non A-Non B	4	2	3	21	14	19
HEPATITIS Type Unspecified	4	1	4	13	12	9
LEPROSY		-	1		15	6
MALARIA	2	1	2	18	9	12
MEASLES	3		-	14		2
MENINGITIS, BACTERIAL	1	1	3	4	7	6
MENINGITIS, VIRAL	1	1	2	7	4	5
MUMPS	1	3	-	8	6	2
PERTUSSIS			3			3
PSITTACOSIS		-			2	
RUBELLA		-	1		1	4
SALMONELLOSIS	24	10	12	79	68	89
SHIGELLOSIS	39	40	34	183	154	169
SYPHILIS, Total	108	48	66	657	462	384
SYPHILIS, Primary & Secondary	66	17	33	369	254	182
TUBERCULOSIS (all forms)	28	17	28	110	109	128
TYPHOID FEVER	-	1	-	2	3	2
Total deaths reported this period		584	558		3843	3510
Deaths from pneumonia this period		15	11		162	125

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RESTAURANT-ASSOCIATED OUTBREAK OF SHIGELLOSIS: SAN FRANCISCO, MAY 1986

On May 19, 1986, a physician telephoned the Bureau of Communicable Disease Control to report a case of shigellosis in a 40 year old female. The patient had nausea and loss of appetite beginning on 5/11, progressing to severe diarrhea and dehydration the next day. On 5/12 she was hospitalized for her illness, and discharged on 5/16.

Also on May 19, the Bureau received 3 laboratory reports of Shigella flexneri in 3 members of a family. The family, a father, mother and 3 children aged 9, 12 and 14 had been seen in a hospital emergency room late on 5/12. All except the mother had abdominal distress and diarrhea. The 9 year old girl was ill enough to be admitted (discharged 2 days later) and the other 2 children were cultured, treated and sent home. Although symptomatic, the father was not cultured, and was treated empirically. Over the next few days the 12 year old girl became progressively ill and was admitted to the hospital on 5/15 with diarrhea and dehydration. She was discharged on 5/16.

With the first case report, the investigation did not focus on a common food source, although the patient gave a history of having eaten at a restaurant on 5/9. However, when the family gave a history of eating at the same restaurant on 5/10, the disease investigation began to explore the restaurant as a possible source of infection. On 5/20 the family was re-interviewed for more details. Four out of the five family members who had eaten guacamole and/or salsa among other foods at the restaurant had become ill. A food history obtained on the first case revealed that she had eaten guacamole, among other foods at the same restaurant (hereafter referred to as "restaurant A").

On the afternoon of 5/19, the Bureau of Communicable Disease Control requested that a restaurant inspection be conducted by the Bureau of Environmental Health. An inspection the following day found the premises to be in satisfactory condition overall, with no major violations of the California Health and Safety Code. Upon questioning the manager it was determined that none of the foodhandlers had experienced gastroenteritis or any other illness during the preceding week, and no gastroenteritis had been reported by any of his patrons.

On 5/20, a hospital laboratory reported a case of shigellosis in a 29 year old female with onset of symptoms on 5/12. She had been seen for gastrointestinal illness on 5/14, at which time a stool sample was obtained and she was sent home on medication. This patient was interviewed on 5/21 and gave a history of having eaten at restaurant A on 5/10. Among other food items, she had eaten guacamole. On the same day another shigella case was reported by a laboratory. The patient, a 50 year old man was seen at a hospital clinic on 5/15 with a 4 day history of nausea, abdominal cramps and bloody diarrhea. A stool culture grew Shigella flexneri. Investigation revealed that he and his wife had eaten dinner at restaurant A on 5/9. The patient had a meat dish and salsa but did not eat guacamole. The patient's wife ate the same food items, but did not become ill.

On May 21, two Disease Control staff visited restaurant A to discuss the situation with the proprietor and four

of his full-time employees who were present. Enteric stool kits were distributed to a total of 7 workers (including 3 part-time employees), who were directed to return the kits to the Department of Public Health laboratory. On the same day the owner was asked to close the restaurant. He was further instructed to discard all unused and open food, and to clean and sanitize all equipment, work tables, storage shelves and utensils.

By this time 6 reported cases of shigellosis had been traced to restaurant A. All 6 cases had eaten there on either 5/9 or 5/10. All had onset one or two days after eating at the restaurant.

Subsequent to the closure of the restaurant on 5/21, 5 additional cases of laboratory confirmed shigellosis came to the attention of the Bureau, through either physician or laboratory reporting. One more case was reported on 5/22, two more on 5/23, and 2 more on 5/27. Overall, a total of 12 (one case was added later) laboratory confirmed cases (Figure 1) and 8 epidemiologically linked symptomatic cases of shigellosis were identified who had eaten at restaurant A. Seven of these 20 patients were male and thirteen female. The ages ranged from 4 years to 50 years. Six individuals - four adults and 2 children - required hospitalization. Serotyping of specimens by the State Health Department revealed all strains to be Shigella flexneri, Group 4a. When questioned in detail, all 20 patients said that they had eaten at restaurant A on either 5/9 or 5/10. All but one individual reportedly consumed guacamole and/or salsa.

On 5/22, initial lab results on stool specimens from all 7 restaurant A employees were negative for enteric pathogens. A second set of stool specimens was requested. On 5/29, preliminary results showed that all seven employees were again negative. The restaurant was permitted to reopen with the understanding that if final results on any employee were positive, he or she would be restricted from work. Final results became available two days later, which confirmed that all seven employees were negative.

DISCUSSION

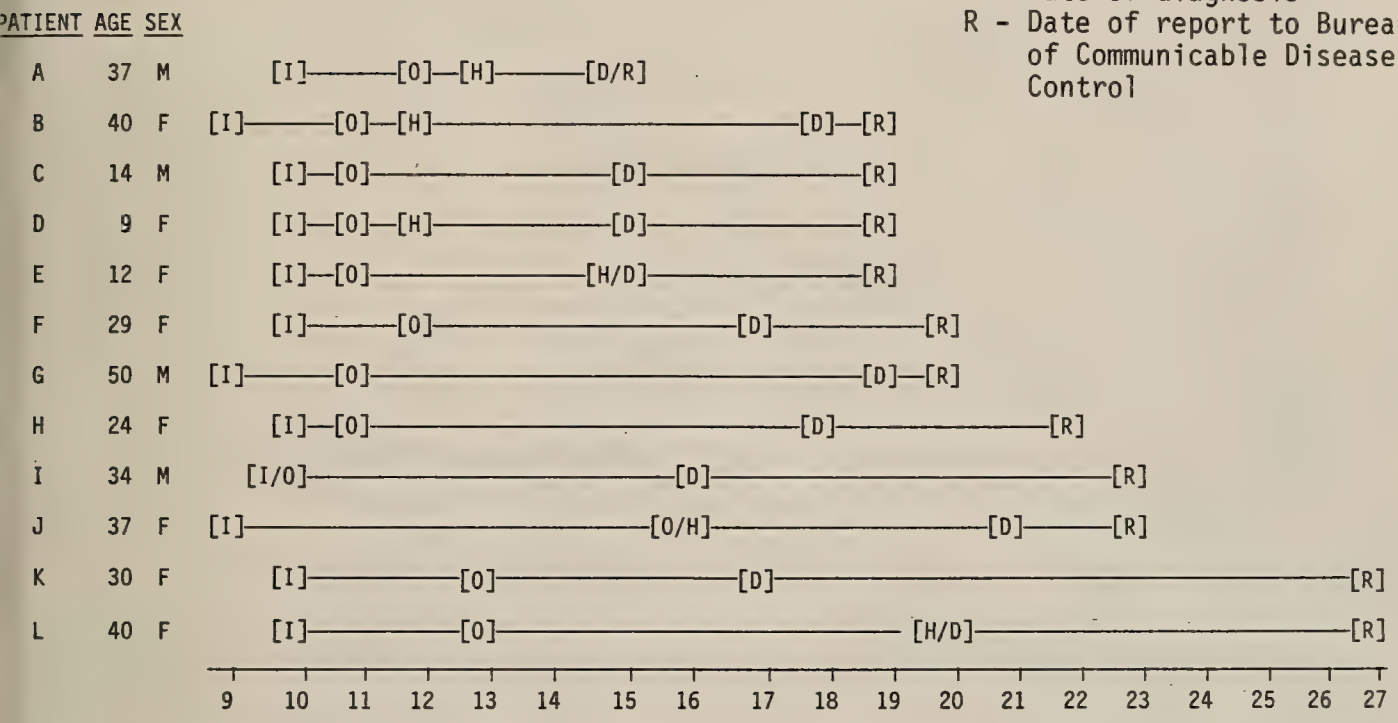
In reviewing all reported cases of shigellosis in the preceding weeks, it was discovered that a physician had called the Bureau on 5/15 reporting that he had a patient hospitalized with shigella infection, who claimed to have become infected by eating at restaurant A. At the time that the report was received, it was treated as an isolated situation, which is correct protocol for a single report. However, in retrospect, this patient was considered to have been part of the outbreak, and included in the total of 20 cases.

At the time the Environmental Health inspectors examined the premises on 5/20, no guacamole or salsa remained for testing. Since the suspected food items were unavailable for laboratory examination and all restaurant A employees tested negative, source spread determination was not possible. Discussion with the owner disclosed that containers of guacamole dip, tortilla chips and salsa were offered to customers while they were waiting for their orders. The chips, dip and salsa were displayed for self-service in a common basket and bowls on the service counter by the cash register. The guacamole, made of avocado, sour cream, lemon juice and spices was prepared in a quantity sufficient for 3 days and refrigerated nightly. The salsa was also prepared on the premises in 8 pound batches.

Food histories linked all 20 cases to the restaurant on either 5/9 or 5/10. It is possible that one or more patrons, while helping themselves to the free guacamole, contaminated it with shigella organism. Once this contaminated batch was exhausted, no further cases occurred. Although definitive proof is not possible, the guacamole was determined to be the most likely source of contamination. The owner was directed to change the practice of providing food at the counter for common consumption.

Figure 1. PATIENT HISTORY OF 12 LABORATORY-CONFIRMED CASES OF SHIGELLOSIS, RESTAURANT A, MAY 1986

I - Date patient infected at restaurant A
O - Onset of symptoms
H - Date of hospitalization
D - Date of diagnosis
R - Date of report to Bureau of Communicable Disease Control


PATIENT AGE SEX
A 37 M [I]-[O]-[H]-[D/R]
B 40 F [I]-[O]-[H]-[D]-[R]
C 14 M [I]-[O]-[D]-[R]
D 9 F [I]-[O]-[H]-[D]-[R]
E 12 F [I]-[O]-[H/D]-[R]
F 29 F [I]-[O]-[D]-[R]
G 50 M [I]-[O]-[D]-[R]
H 24 F [I]-[O]-[D]-[R]
I 34 M [I/O]-[D]-[R]
J 37 F [I]-[O/H]-[D]-[R]
K 30 F [I]-[O]-[D]-[R]
L 40 F [I]-[O]-[H/D]-[R]
9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

ERRATA

The numbers of cases of Campylobacter infection reported in volume 2, numbers 4-7, are incorrect and should be revised as follows:

Number 4 (April)	Cases Reported Weeks 6 through 9,	40
	Total Cases Reported to Date, 1986,	70
Number 5 (May)	Cases Reported Weeks 10 through 13,	49
	Total Cases Reported to Date, 1986,	119
Number 6 (June)	Total Cases Reported to Date, 1986,	186
Number 7 (July)	Total Cases Reported to Date, 1986,	230

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING June 28, 1986

DISEASE	CASES REPORTED WEEKS 23 THROUGH 26			TOTAL CASES REPORTED TO DATE			
	1984	1985	1986	1984	1985	1986	
AIDS	31	51	106	215	376	532	
AMEBIASIS	53	63	39	362	451	330	
CAMPYLOBACTER	27	49	63	123	230	293	*
COCCIDIOIDOMYCOSIS	-	3		1	6		
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	56	53	122	419	381	463	
GIARDIASIS	16	41	41	96	265	237	
GONORRHEA	612	645	424	4118	3793	2848	
HEPATITIS Type A	6	18	7	42	86	70	
HEPATITIS Type B	23	13	14	131	107	90	
HEPATITIS Non A-Non B	6	-	3	27	14	23	
HEPATITIS Type Unspecified	-	-	1	13	12	10	
LEPROSY		13	-		28	6	
MALARIA	2	2	-	20	11	12	
MEASLES	1		-	15		2	
MENINGITIS, BACTERIAL	-	-	2	4	7	8	
MENINGITIS, VIRAL	-	2	2	7	6	7	
MUMPS	-	1	-	8	7	2	
PERTUSSIS			1			4	
PSITTACOSIS		2			4		
RUBELLA		2	-		3	4	
SALMONELLOSIS	9	20	24	88	88	113	
SHIGELLOSIS	26	28	45	209	182	214	
SYPHILIS, Total	104	60	58	761	522	442	
SYPHILIS, Primary & Secondary	62	30	26	431	284	208	
TUBERCULOSIS (all forms)	19	23	14	129	132	142	
TYPHOID FEVER	2	-	2	4	3	4	
Total deaths reported this period		672	651		4515	4161	
Deaths from pneumonia this period		20	28		182	153	

* figure represents adjustment from disease weeks 6 and 13 - 24 cases were reported in error

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AIDS in Racial and Ethnic Minorities - San Francisco

Two thousand two hundred fifty cases of acquired immunodeficiency syndrome (AIDS) were reported to the San Francisco Department of Public Health as of July 31, 1986. Three hundred four (14%) of these cases involved nonwhites. The proportion of cases among nonwhites has increased significantly since 1982 with 16% of cases reported in 1986 involving nonwhites (Table 1).

Of the 2,250 cases, 147 (7%) were in Hispanics, 129 (6%) were in blacks, and 28 (1%) were in Asians and Pacific Islanders. The overall incidence of AIDS to date is significantly lower in nonwhites (97.3 cases per 100,000) than in whites (539.3 cases per 100,000, X^2= 980.67, $p<.001$, Table 2). In addition, the incidence in Asians and Pacific Islanders is significantly lower than the incidence in blacks (relative risk [RR]=7.9, 95% confidence interval [95% CI]=5.21-11.80) and Hispanics (RR=9.0, 95% CI=5.96-13.38).

Of the 304 cases in nonwhites, 263 (87%) were in homosexual or bisexual men, 18 (6%) were in heterosexual intravenous drug users, 1 (<1%) was in a hemophiliac, 5 (2%) were in transfusion recipients, 5 (2%) were in heterosexual contacts to persons in other risk groups, 3 (1%) were in children infected perinatally, and 9 (3%) had no identified risk (Table 3).

Nonwhite gay and bisexual men with AIDS were slightly younger than white gay and bisexual men (71% of nonwhites <40 years old v. 65% of whites, X^2=3.84, p=.05). They also tended to live outside of 19 previously described census tracts in the Castro district with the highest incidence of AIDS more frequently than whites (56% of nonwhites outside the 19 high-incidence census tracts v. 49% of whites, X^2=3.67, p=.06). The proportion of bisexual men was twice as high among nonwhites as whites (11% of nonwhites v. 5% of whites, X^2=14.30, $p<.001$), but the proportion of white and nonwhite men with histories of intravenous drug use was similar.

Among all men with AIDS, the proportion of gay and bisexual men was significantly less among nonwhites compared to whites (87% of nonwhites v. 98% of whites, X^2=117.39, $p<.001$). Of the 41 cases among nonwhites not involving gay or bisexual men, 23 (56%) were related primarily or secondarily to intravenous drug use, including 2 heterosexual contacts of intravenous drug users and 3 cases transmitted perinatally from intravenous drug-using mothers. Twelve (67%) of the 18 intravenous drug users were black, 4 (22%) were Hispanic, and 2 (11%) were Asian or Pacific Islander. Three (17%) of the 18 nonwhite intravenous drug users, including 1 black and 2 Asians-Pacific Islanders, were female compared to 5 (56%) of the white intravenous drug users (p=.05 by Fisher's exact test). There were no significant differences between white and nonwhite intravenous drug users in terms of age or census tract of residence.

Nonwhite gay and bisexual men with AIDS were similar in age to nonwhite heterosexual intravenous drug users with AIDS. However, the proportion of blacks differed significantly between these two groups, with blacks comprising 39% of nonwhite gay and bisexual AIDS cases and 67% of the nonwhite heterosexual intravenous drug user cases (X^2=4.34, $p<.05$). In addition, nonwhite gay and bisexual men were more likely to live in the 19 high-incidence census tracts than nonwhite heterosexual intravenous drug users (43% of nonwhite gay and bisexual men in 19 high-incidence census tracts v. 7% of heterosexual intravenous drug users, X^2=5.88, $p<.05$).

Table 1. Percentage of AIDS Cases by Race and Year of Report, San Francisco, 1981 - 1986*

	1981 (N=24)	1982 (N=94)	1983 (N=249)	1984 (N=502)	1985 (N=761)	1986* (N=620)
White	92	88	91	88	86	84
Black	4	4	6	4	6	7
Hispanic	4	7	3	7	7	8
Asian-Pacific Islander	0	0	1	1	2	2

* To July 31, 1986 X^2 for trend comparing white and nonwhite from 1982 on, 10.34 with 4 degrees of freedom, p=.035

Table 2. Cases and Incidence of AIDS by Race, San Francisco, 1981-1986

	Cases	Incidence**	Relative Risk***
White	1946	539.3	1
Hispanic	147	174.6	0.32 (0.27-0.3
Black	129	153.0	0.28 (0.24-0.3
Asian-Pacific Islander	28	19.5	0.04 (0.03-0.0

* To July 31, 1986
** Per 100,000 population (1980 census)
*** Compared to whites with 95% confidence interval

Editorial note: In San Francisco, 14% of all AIDS cases have occurred in nonwhites. This is in contrast to the national distribution, where 25% of cases have occurred in nonwhites (1). This difference reflects the higher proportion of nonwhites with intravenous drug use-associated AIDS outside of San Francisco. In San Francisco, nonwhites also constitute a disproportionate number of the intravenous drug using cases, but the overall AIDS incidence by race in San Francisco is lower in nonwhites because of the relatively small number of heterosexual intravenous drug use-associated cases to date (2).

Among nonwhites in San Francisco, AIDS is primarily a disease of gay and bisexual men who are slightly younger and slightly less concentrated in the Castro area than white gay and bisexual men with AIDS. However, nonwhites make up a substantial proportion of heterosexual intravenous drug use-associated cases, and these patients, much like their white counterparts, come from different areas of the city than either white or nonwhite gay and bisexual men with AIDS. This suggests that risk-reduction education directed to the gay community may have minimum impact on this group.

As the prevalence of human immunodeficiency virus (HIV) infection increases among heterosexual intravenous drug users with resultant secondary sexual and perinatal transmission, the number of AIDS cases in nonwhites will likely rise. To decrease transmission among nonwhites, linguistically and culturally appropriate community-based risk-reduction campaigns should be targeted to this population.

References

1. Bakerman R, Lumb JR, Jackson RE, Smith DW. AIDS risk-group profiles in whites and members of minority groups [letter]. N Engl J Med 1986;315:191-2.

2. San Francisco Department of Public Health. AIDS among intravenous drug users-San Francisco. San Francisco Epidemiologic Bulletin 1986 May;2(5):1-3.

Table 3. AIDS Cases by Race and Risk Group, San Francisco, 1981-1986*

	Race				
Risk Group	White	Black	Hispanic	Asian-Pacific Islander	Total
Homosexual/ Bisexual men	1914 (98)**	102 (79)	138 (94)	23 (82)	2177 (97)
Intravenous drug users	9 (<1)	12 (9)	4 (3)	2 (7)	27 (1)
Blood transfusion	14 (1)	2 (2)	1 (1)	2 (7)	19 (1)
Hemophiliac	1 (<1)	0 (0)	1 (1)	0	2 (<1)
Heteroseuxal contact	2 (<1)	4 (3)	1 (1)	0	7 (<1)
Pediatric	0 (0)	3 (2)	0 (0)	0	3 (<1)
No identified risk	6 (<1)	6 (5)	2 (1)	1 (4)	15 (1)
Total	1946	129	147	28	2250

* As of July 31, 1986
** Percentage of column total

Antigenic Variation of Recent Influenza A (H_1N_1) Viruses*

Antigenic analysis of recent influenza A (H_1N_1) viruses, including those reported from several countries in Southeast Asia (1), has detected antigenic drift from the previously prevalent strain related to A/Chile/1/83 (H_1N_1). Studies of antibody response to recipients of last year's influenza vaccine containing A/Chile/1/83 antigen have shown that only 15%-30% of vaccinees developed protective titers of antibody to the new strain in contrast to 80% who developed protective titers of antibody to A/Chile/1/83.

Based on available data, WHO has suggested the addition of this new type A (H_1N_1) strain to other strains already recommended for incorporation in 1986-1987 influenza vaccines, either as an extra component in current trivalent vaccines or as monovalent vaccine (2). In the United States, the vaccine production schedule permits manufacture only of a supplemental monovalent vaccine with a new type (H_1N_1) virus. The U.S. Public Health Service is recommending production and use of such a vaccine to maximize protection against the new variant, particularly for high-risk children and young adults who appear to be most susceptible to illness caused by current type A (H_1N_1) viruses (3). If cases or outbreaks of influenza-like illnesses occur in San Francisco early this fall, prompt laboratory diagnosis will be necessary to establish whether they are due to influenza A viruses and to guide appropriate use of the available antiviral agent, amantadine hydrochloride (4).

References
1. CDC. Update: influenza activity-worldwide. MMWR 1986;35:433-4.
2. World Health Organization. Composition of influenza virus vaccines for use in the 1986-87 season: an update. Wkly Epidem Rec 1986;61:237-8.
3. ACIP. Monovalent influenza A (H_1N_1) vaccine, 1986-1987. MMWR 1986;35:517-21.
4. ACIP. Prevention and control of influenza. MMWR 1986;35:317-26,331.

* Adapted from MMWR 1986 August 15;35(32): 510-2.

San Francisco Comment: Determination of outbreaks of this new strain of influenza A in San Francisco depends on prompt notification. Any unusual incidence of respiratory infection should be reported to the Bureau of Communicable Disease Control at 558-2926. Arrangements will be made for the collection of appropriate specimens. This will facilitate efforts to document the presence of the new strain.

The standard trivalent influenza vaccine has been received for use in the fall influenza prevention campaign. Vaccine has been distributed to providers and chronic care facilities, and will be administered in public clinics in October and November 1986. This influenza campaign will be completed before the monovalent vaccine is scheduled to be available. Providers will be notified when the monovalent vaccine becomes available.

Notice: With this issue, the San Francisco Epidemiologic Bulletin is adopting the recommendation of the International Committee on the Taxonomy of Viruses changing the names of the AIDS virus from lymphadenopathy-associated virus (LAV), human T-cell lymphotropic virus type III (HTLV-III), or AIDS-associated retrovirus (ARV) to human immunodeficiency virus (HIV).

Immunization - adverse events

Physicians are encouraged to report vaccine associated adverse events where the recipient was ill enough to be taken to a health care provider and the onset of the symptoms occurred within 30 days of the administration of the vaccine. Reports should be made to the Bureau of Communicable Disease Control at 558-2926.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING August 2, 1986

DISEASE	CASES REPORTED WEEKS 27 THROUGH 31			TOTAL CASES REPORTED TO DATE		
	1984	1985	1986	1984	1985	1986
AIDS	54	69	102	272	445	634
AMEBIASIS	58	64	56	420	515	386
CAMPYLOBACTER	36	56	82	159	286	375
COCCIDIOIDOMYCOSIS	-	1	1	1	7	1
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	72	58	87	491	439	550
GIARDIASIS	33	55	24	129	320	261
GONORRHEA	771	617	611	4889	4410	3459
HEPATITIS Type A	11	22	13	53	108	82
HEPATITIS Type B	22	23	19	153	130	107
HEPATITIS Non A-Non B	3	3	5	30	17	28
HEPATITIS Type Unspecified	2	-	2	15	12	12
LEPROSY		22	2		50	8
MALARIA	8	8	3	28	19	15
MEASLES	-		-	15		2
MENINGITIS, BACTERIAL	1	1	3	5	8	11
MENINGITIS, VIRAL	-	-	-	7	6	7
MUMPS	-	-	-	8	7	2
PERTUSSIS	1		-	1		4
PSITTACOSIS		-	1		4	1
RUBELLA		1	-		4	4
SALMONELLOSIS	17	27	20	105	115	133
SHIGELLOSIS	44	42	42	253	224	256
SYPHILIS, Total	102	77	69	863	599	511
SYPHILIS, Primary & Secondary	61	37	29	493	321	237
TUBERCULOSIS (all forms)	32	34	25	161	166	167
TYPHOID FEVER	2	2	-	6	5	4
Total deaths reported this period		769	744		5284	4905
Deaths from pneumonia this period		21	27		203	180

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Shigellosis in San Francisco, 1977 - 1985

The number of reported cases of shigellosis in San Francisco increased each year between 1977 and 1981. Beginning in 1982, however, the annual totals have decreased steadily, from 534 in 1981 to 362 in 1985 (Figure 1). During the first three quarters of 1986, 327 cases have been reported. In 1985, as in previous years, there was a disparity in cases between sexes, and a disproportionate distribution of cases by age (Figure 2). Of the 362 cases reported, 302 (83.4%) occurred in males and 60 (16.6%) occurred in females. Of the 352 cases where age was determined, 70.4% occurred in males between 20 and 49 years of age. The most common serotype isolated was Shigella flexneri which accounted for 298 (82.3%) cases, followed by Shigella sonnei with 53 (14.6%) cases, Shigella boydii with 6 (1.7%) cases and Shigella dysenteriae with 5 (1.4%) cases.

Nationally, the highest incidence rates of shigellosis occur in children under 10 years of age. Incidence rates in the 20 to 29 year old age group are slightly higher than in children 10 to 19 years of age, with higher rates reported in females than males (1). During 1985 in San Francisco, 31 cases were reported in children 10 years and under, which accounted for only 8.5% of the total cases. The age distribution observed in San Francisco is possibly confounded by a differential rate of reporting of cases in homosexual and bisexual males versus other individuals at risk. It is likely that cases of shigellosis in children are underreported, whereas homosexual and bisexual adult males are more likely to seek screening and treatment.

The most frequently isolated serotype nationally (excluding California) was Shigella sonnei which comprised 69.3% of all serotypes isolated in 1985. Shigella flexneri accounted for 27.4%, followed by Shigella boydii with 2.2% and Shigella dysenteriae with 1.06%.

During 1985, the Bureau of Communicable Disease Control attempted to follow up each case of shigellosis with a patient interview to determine how the infection was acquired. Interviews were conducted by telephone and focused on food and travel history, living situations and sexual transmission. Of the 362 cases reported, 289 (79.8%) were interviewed. Of those interviewed, 190 (65.7%) were homosexual or bisexual men. Forty-five (15.6%) gave histories of travel outside of the United States to areas where shigella infection is endemic. Another 23 (8.0%) gave exposure histories suggesting a food source, although no foodborne outbreak of shigellosis could be identified. Five (1.7%) were children who attended a day care center where the infection was probably acquired. In 26 (9.0%) cases, no source could be identified.

Comment

Based on cases that were interviewed, the most common mode of transmission among reported cases in San Francisco is the fecal-oral route during sexual contact among homosexual and bisexual men. However, this finding may be partially due to the underreporting of cases among other risk groups such as day care children and staff. The decline observed in shigellosis since 1982 can probably be attributed to safer sex practices in the homosexual and bisexual male community.

Although prolonged carrier states are uncommon (2), persons with shigellosis can transmit infection during the convalescent stage, especially if antibiotic therapy is withheld. Sexual contact should be avoided until medication has been completed. At least one follow-up negative stool culture is recommended. Sex partners should be notified and, if symptomatic, referred to a physician.

Only a small percentage of cases of shigellosis are traced to probable sources encountered in foreign travel. This is due in part to the short incubation period (1-3 days), with travelers becoming symptomatic and treated while still outside the United States. To avoid infection, travelers to endemic countries where hygiene and sanitation are poor should comsume only boiled or bottled water. Foods should be thoroughly cooked and raw fruits and vegetables avoided unless they can be peeled or cleaned by the traveler. A decision to recommend prophylaxis should be based on the individual case. In general, prophylaxis is not recommended.

Among children, the most common source of infection is household transmission, especially in Hispanic and Southeast Asian ethnic groups. Outbreaks of shigellosis in day care centers and institutions for the mentally handicapped are well known (3,4). To prevent outbreaks in these settings, children with shigellosis should be excluded until laboratory proof of negative stool exams has been obtained. However, isolation within the day care setting may be preferred to exclusion, as studies have found that when children are excluded, parents will transfer them to another child care center where other children may be exposed (5).

References

1. CDC. Shigellosis - United States, 1984. MMWR 1985;34:600-602.

2. Dritz SK, Goldsmith RS. Sexually transmissable protozoal, bacterial and viral enteric infections. Compr Ther 1980;5:34-40.

3. Weissman JB, Schmerler A, Weiler P, et al. The role of preschool children and day care centers in the spread of shigellosis in urban communities. J Pediatr 1974;84:797-802.

4. DuPont HL, Gangarosa EJ, Reller LB, et al. Shigellosis in custodial institutions. Am J Epidemiol 1970;92:172-179.

5. Tauxe RV, Johnson KE, Boase JC, et al. Control of day care shigellosis: a trial of convalescent day care in isolation. Am J Public Health 1986;76:627-630.

Figure 1. Annual Shigellosis Morbidity
San Francisco Department of Public Health
1977 –1985

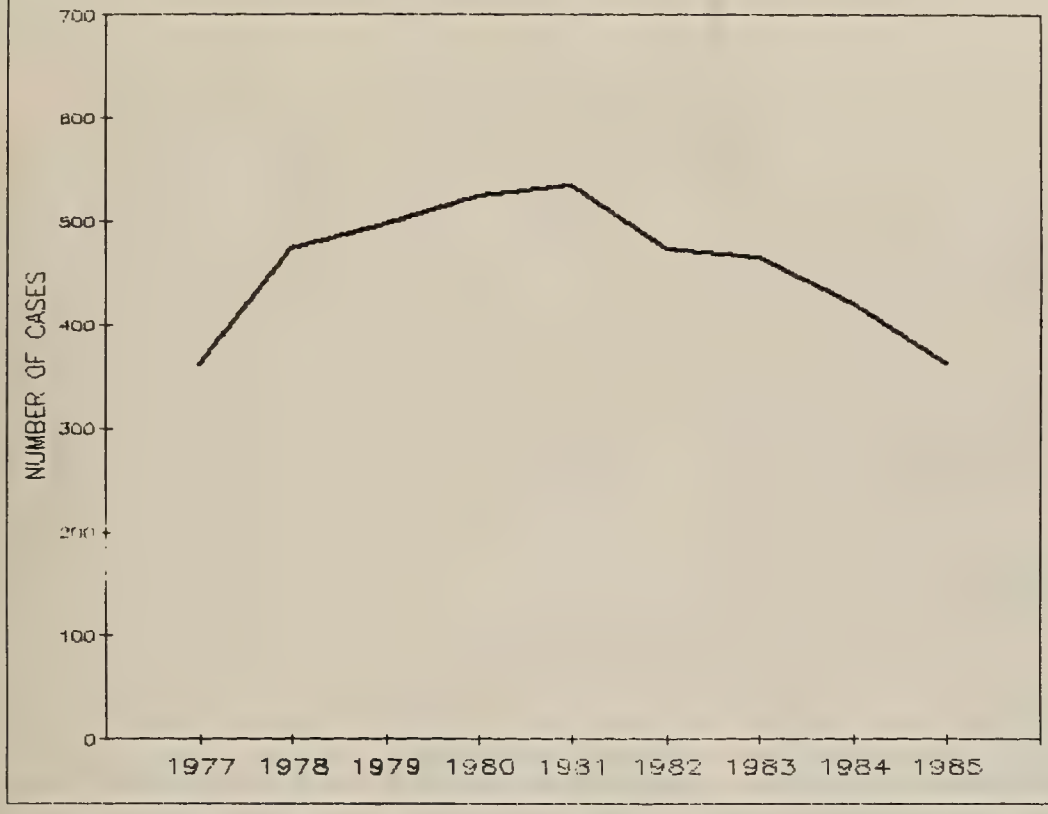
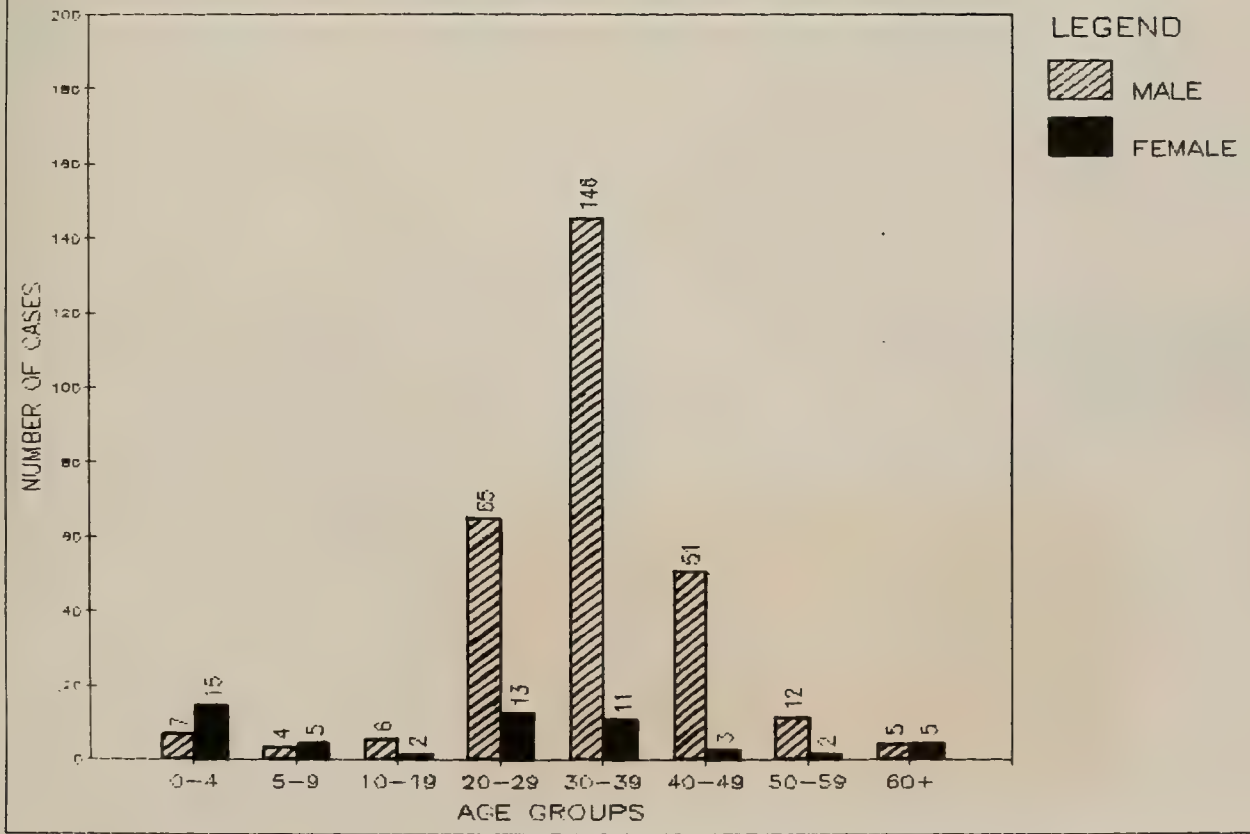


Figure 2. Shigellosis Cases by Age and Sex
San Francisco, 1985.



CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING August 30, 1986

DISEASE	CASES REPORTED WEEKS 32 THROUGH 35			TOTAL CASES REPORTED TO DATE		
	1984	1985	1986	1984	1985	1986
AIDS	37	64	98	309	509	732
AMEBIASIS	57	50	46	477	565	413
CAMPYLOBACTER	30	52	90	189	338	465
COCCIDIOIDOMYCOSIS	-	-	1	1	7	2
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	68	114	44	559	553	594
GIARDIASIS	16	58	33	145	378	279
GONORRHEA	772	626	487	5661	5036	3946
HEPATITIS Type A	6	12	7	59	120	89
HEPATITIS Type B	33	12	5	186	142	112
HEPATITIS Non A-Non B	3	1	1	33	18	29
HEPATITIS Type Unspecified	2	2	1	17	14	13
LEPROSY		1	-		51	8
MALARIA	4	-	4	32	19	19
MEASLES	-		-	15		2
MENINGITIS, BACTERIAL	-	2		5	10	11
MENINGITIS, VIRAL	-	-	1	7	6	8
MUMPS	2	1	-	10	8	2
PERTUSSIS	1	2	-	2	2	4
PSITTACOSIS		-	-		4	1
RUBELLA		-	1		4	5
SALMONELLOSIS	19	21	20	124	136	153
SHIGELLOSIS	33	42	26	286	266	282
SYPHILIS, Total	113	74	78	976	673	592
SYPHILIS, Primary & Secondary	61	40	32	554	361	269
TUBERCULOSIS (all forms)	16	24	18	177	190	185
TYPHOID FEVER	-	1	1	6	6	5
Total deaths reported this period		646	611		5930	5516
Deaths from pneumonia this period		22	17		225	197

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AIDS in San Francisco: Current Status of the Epidemic and Projections

A total of 2,546 cases of acquired immunodeficiency syndrome (AIDS) and 1,442 (57%) deaths were reported to the San Francisco Department of Public Health between July 1, 1981 and October 31, 1986. Figure 1 shows the number of cases diagnosed by month in San Francisco and projected numbers through 1988. The vertical line separates the actual from the predicted number of cases. Projections were obtained by fitting a Box-Jenkins time-series model to past incidence data (1). Cases were forecast from May, 1986 and beyond to avoid using data for the most recent months which are biased downward due to to reporting delays.

Table 1 shows the total AIDS cases predicted for San Francisco through 1988. These projections indicate that the number of AIDS cases diagnosed by month will continue to increase through 1988, and that the rate of increase will be slower than that seen in the earlier years of the epidemic.

Figure 1. San Francisco AIDS cases by month of diagnosis, actual and forecast through 1988

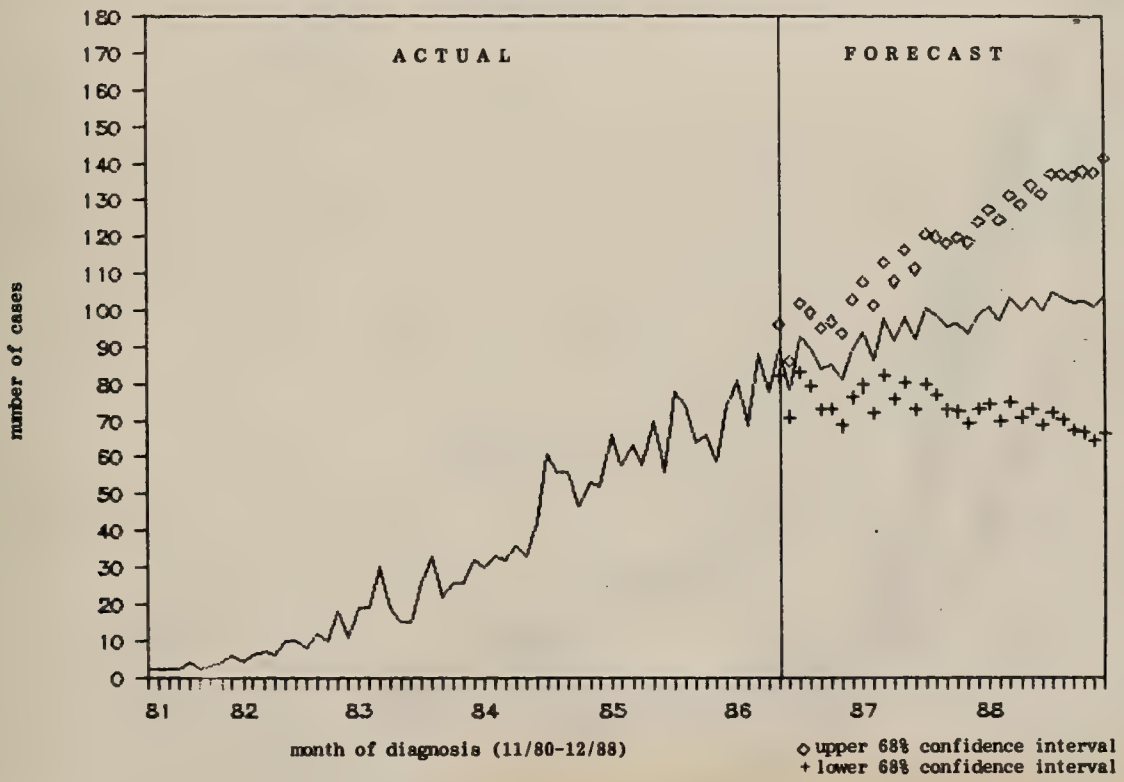


Table 1. AIDS morbidity projections for San Francisco by year, 1986-1988

Year	Projected number of new cases diagnosed	range*	Projected cumulative** cases diagnosed through December of year	range*
1986	1007	840-1174	2735	2568-2902
1987	1144	668-1619	3879	3236-4521
1988	1222	450-1995	5101	3686-6516

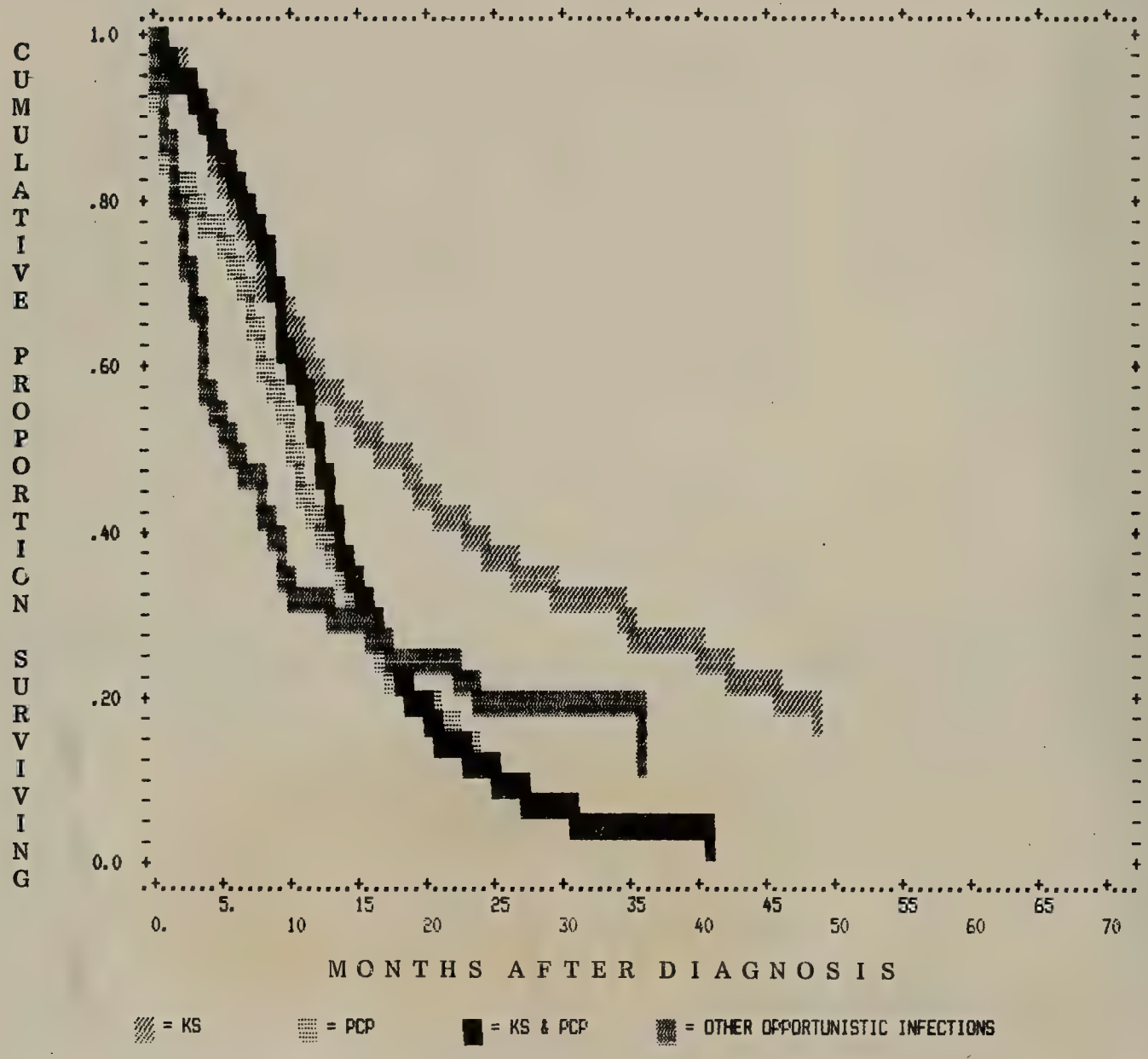
* 95% confidence interval
** cumulative from July 1981

Figure 2 shows the survival time in months after diagnosis for patients categorized by Centers for Disease Control (CDC) diagnostic group. For all patients combined, the median survival time from diagnosis to death was 11.2 months. The median survival for patients with Kaposi's sarcoma (KS) was 17.3 months; for *Pneumocystis carinii* pneumonia (PCP), 10.2 months; for KS with PCP, 12.3 months; and for patients with other opportunistic infections, 6.2 months.

Ninety-nine percent (2,521) of the patients with AIDS were male. To date, 25 females have been reported with AIDS. Most of the AIDS patients (90%) were in the 20-49 year old age group. There were 245 patients (9.6%) age 50 and above. In addition, 5 teenagers (13-19 years) and 5 children (0-12 years) have been reported with AIDS to date.

Eighty-seven percent (2,214) of the patients with AIDS were white, 147 (5.7%) black, 152 (6.0%) Hispanic, and 31 (1.2%) Asian or Pacific Islander. These proportions are not significantly different from those reported in previous years.

Figure 2. AIDS SURVIVAL BY DIAGNOSTIC GROUP



The distribution of AIDS cases by primary risk group is shown in Table 2. Most of the cases of AIDS were among gay and bisexual men. Three hundred and twenty-seven (13%) gay and bisexual men also had a history of intravenous (IV) drug use. The number of cases attributed to the other risk groups is increasing, although no significant trends are apparent at this time.

Table 3 shows the distribution of AIDS cases by primary diagnosis. The majority (89%) of patients were diagnosed with either *Pneumocystis carinii* pneumonia, or Kaposi's sarcoma.

Reported by the AIDS Office.

Editorial note:

The forecasts presented in this report do not take into account human immunodeficiency virus (HIV) transmission rates and could be affected by any major shifting of the rates of transmission. These forecasts will be periodically reexamined and reevaluated as more data become available in the future.

References

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Table 2. AIDS cases by primary risk group
San Francisco, 1981 - 1986

Risk Group	N	Percent
Homosexual/bisexual men	2139	84.0
Homosexual/bisexual intravenous drug users	329	12.9
Intravenous drug users	30	1.2
Transfusion recipients	20	0.8
Heterosexual contact*	8	0.3
Hemophiliacs	3	0.1
Children of mothers in risk groups	3	0.1
No identified risk group	14	0.6
	2546	100.0

* with a person with AIDS or at risk for AIDS

Table 3. AIDS cases by primary diagnosis
San Francisco, 1981 - 1986

Primary Diagnosis	N	Percent
Pneumocystis carinii pneumonia	1481	58.2
Kaposi's sarcoma	796	31.3
Disseminated cryptococcal infection	72	2.8
Cryptosporidiosis	33	1.3
Non-Hodgkins lymphoma	31	1.2
Candida esophagitis	31	1.2
Atypical mycobacterial infection	29	1.1
Cytomegalovirus infection	25	1.0
Toxoplasmosis	17	0.7
Primary lymphoma of the brain	11	0.4
Progressive multifocal leukoencephalopathy	9	0.4
Disseminated herpes simplex virus infection	7	0.3
Isoporiasis	2	0.1
Histoplasmosis	1	<0.1
Lymphoid interstitial pneumonia	1	<0.1
	2546	100.0

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING Sept. 27, 1986

DISEASE	CASES REPORTED WEEKS 36 THROUGH 39			TOTAL CASES REPORTED TO DATE		
	1984	1985	1986	1984	1985	1986
AIDS	43	59	79	352	568	811
AMEBIASIS	83	40	34	560	605	447
CAMPYLOBACTER	51	34	49	240	372	514
COCCIDIOIDOMYCOSIS	-	1	1	1	8	3
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	50	58	64	609	611	658
GIARDIASIS	35	28	28	180	406	307
GONORRHEA	754	542	491	6415	5578	4437
HEPATITIS Type A	4	13	6	63	133	95
HEPATITIS Type B	22	10	7	208	152	119
HEPATITIS Non A-Non B	3	4	2	36	22	31
HEPATITIS Type Unspecified	-	1	-	17	15	13
LEPROSY		1	-		52	8
MALARIA	1	1	-	33	20	19
MEASLES	-	1	-	15	1	2
MENINGITIS, BACTERIAL	-	1	-	5	11	11
MENINGITIS, VIRAL	1	5	1	8	11	9
MUMPS	1	-	-	11	8	2
PERTUSSIS	-	-	-	2	2	4
PSITTACOSIS		-	-		4	1
RUBELLA		1	-		5	5
SALMONELLOSIS	13	23	23	137	159	176
SHIGELLOSIS	42	20	44	328	286	326
SYPHILIS, Total	90	51	61	1066	724	649
SYPHILIS, Primary & Secondary	57	26	30	611	387	299
TUBERCULOSIS (all forms)	20	23	28	197	213	213
TYPHOID FEVER	1	1	-	7	7	5
Total deaths reported this period		610	596		6540	6112
Deaths from pneumonia this period		17	14		242	211

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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

Vol.2,No.12 December 1986

SF
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Rectal Gonorrhea in San Francisco, October 1984-September 1986

While the number of cases of rectal gonorrhea (RG) reported to the Bureau of Communicable Disease Control (BCDC) each month has decreased dramatically since the advent of the AIDS epidemic, some cases continue to be reported. The monthly total decreased from 142 to 20 cases over the two-year period from 1 October 1984 to 30 September 1986 (Figure 1). Of the 1614 cases reported during this period, 1520 (94.2%) were male and 94 (5.8%) were female.

The decrease in number of male cases during this period was greater than the decrease in female cases. Logistic regression revealed that the proportion of female cases had increased over the two years ($p=0.08$ for coefficient of sex variable). The magnitude of this increase, however, was only 5.3 percentage points between the first two months and the last two months.*

The number of male cases over the two-year period closely followed an exponential decay with a 5.7% decrease in number of cases every month and a 50.8% decrease every year. This is a greater rate of decrease than has previously been seen. At San Francisco City Clinic, the municipal sexually transmitted disease clinic, the average monthly total for RG cases dropped from 334 per month in 1982 to 175.8 per month in 1983, a 47% decrease, and dropped to 114.6 per month in 1984, a 34% decrease from 1983.

Mean age for male cases was 29.9 years old. Cases at the end of the two-year period tended to be older than those at the beginning; linear regression indicated an increase of 0.07 years of age (equivalent to 0.83 months of age) per month ($p=0.02$).

Each race experienced a decrease in number of male cases (Figure 2). Where race was indicated, 64.0% of male cases were white, 19.1% were black, 3.2% were East Asian, and 13.8% were listed as "other". Five and one-half percent (83) of male cases did not indicate race. No significant deviations from these overall proportions were seen over the two-year period, except for a one-time increase in number of "other" cases and a drop in number of white cases during June and July of 1986.

Of all male cases, 85.9% were diagnosed and reported by City Clinic; this proportion did not change significantly over the two years.

The Castro/17th Street/Stanyan district (defined by the 1984 report of the Association of Bay Area Governments [1], as are all districts discussed below) was the most frequent residence reported by male RG cases (25.1%), followed by Western Addition (18.9%), Civic Center (17.7%), the Mission district (8.0%), Bernal Heights/South Central (5.5%), and South-of-Market (4.6%). Together, these neighborhoods accounted for 79.8% of male cases. The proportion of cases from the Castro/17th Street/Stanyan district increased from 20.8% to 26.7% over the two-year period, though it had dropped to 11.5% during July 1985. The Western Addition had the highest crude rate for male RG at 271.64 cases per 100,000 population per month, followed by Civic Center (247.84), South-of-Market (232.17), and Castro/17th Street/Stanyan (174.74).

A total of 59 male RG cases were reported in August and September, 1986. Of these, 47 (79.7%) had not been reported as a case within the previous 22 months (i.e., only one infection

in the two-year period); 9 (15.3%) had been reported once before, and 3 (5.1%) had been reported twice before. The mean number of reports within the entire two-year period was 1.254 reports per case. Of the 12 repeat cases, 10 had their first visit on or before May 1986; the remaining 2 cases were first seen in August, 1986.

* Two-month totals were used in all statistical tests due to the small number of cases at the end of the two years.

Comment: The male RG population is of interest because it is one of the populations at highest risk for AIDS. Educational efforts aimed at preventing AIDS through the elimination of high-risk sexual practices would be expected to first show an impact on RG, as the incubation period of gonorrhea is much shorter than that of AIDS.

As the decrease in number of cases each month becomes smaller, we should determine whether we are approaching a "hard core" of cases who are not amenable to education on safe sexual practices. The results presented here do not support this hypothesis. The number of cases has decreased by a constant percentage, 11% every two months and 50% every year; the number of cases does not appear to be leveling off.

Further, while the number of cases fell from 235 to 61, the demographics of the cases changed very little. The increase in mean age of male cases could indicate a single birth cohort of cases aging with time (i.e., a change of one month of age per month). No trends in racial proportions were seen over time.

Lastly, and most importantly, nearly 80% of cases diagnosed during the last two months had no previous RG diagnosis in the previous 22 months, and none had more than 2 previous diagnoses. We are still seeing mostly "new" cases of RG, and the number of cases continues to drop. There is no indication here that we have finished educating our populace about safe sexual practices.

Reference:

1. The Association of Bay Area Governments. The City and County of San Francisco Social Area Analysis. July, 1984.

This issue completes the second volume of the San Francisco Epidemiologic Bulletin. Consistent with the objectives of the San Francisco Department of Public Health, the Bureau of Communicable Disease Control publishes the Bulletin to update the medical community on the epidemiology of certain diseases. The epidemiologic perspective not only aids in the planning of public health interventions but also enables clinicians to view patients within the community context. In past issues of the Bulletin, we have tried to present a broad range of topics of interest to the medical community. We would like to take this opportunity to thank our readers for their input and support. The Bureau of Communicable Disease Control welcomes comments regarding previous issues and suggestions for future topics.

Dean F. Echenberg, M.D., Ph.D.
Director, Bureau of Communicable Disease Control

Elizabeth Stoller, M.P.H.
Editor, San Francisco Epidemiologic Bulletin

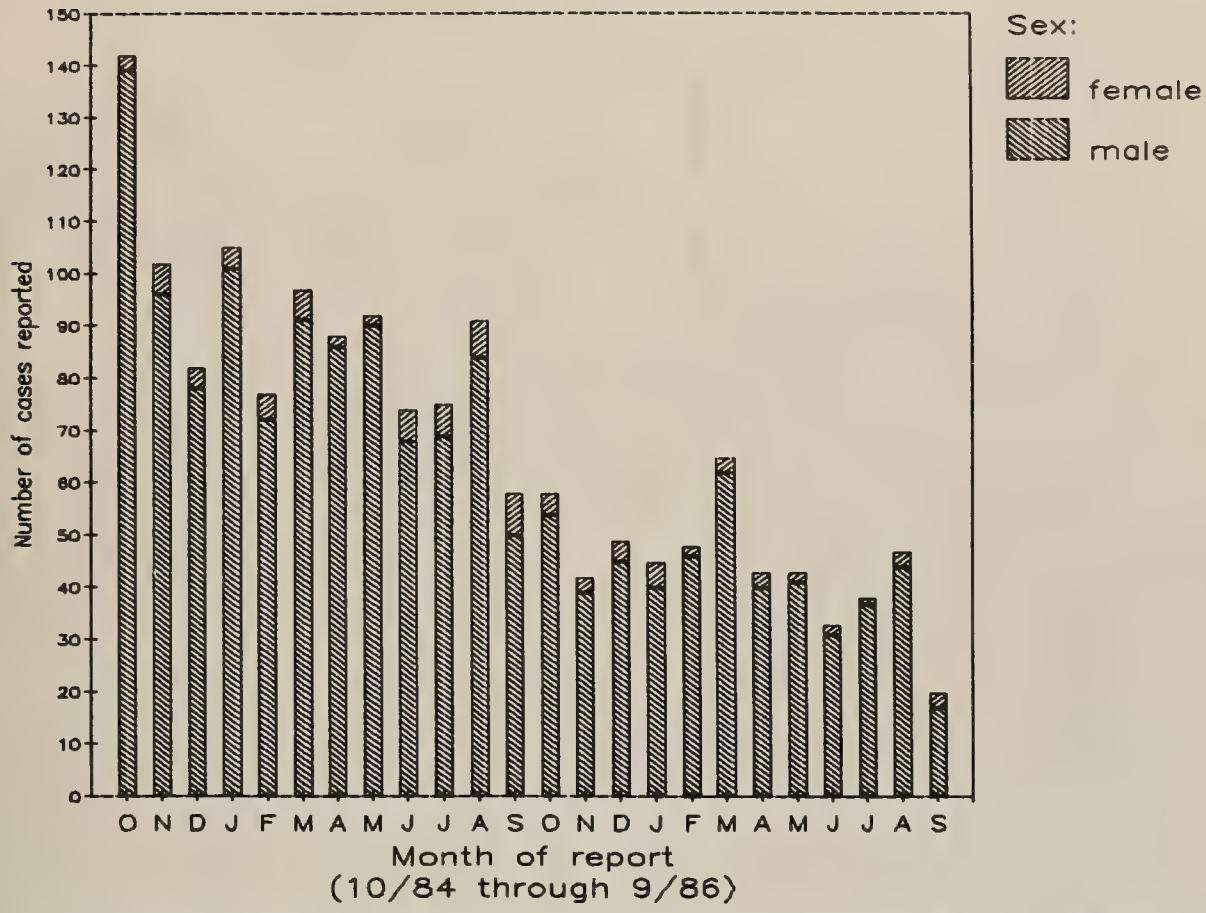

Figure 1. Male and female rectal gonorrhea cases by month of report, San Francisco, October 1984 through September 1986

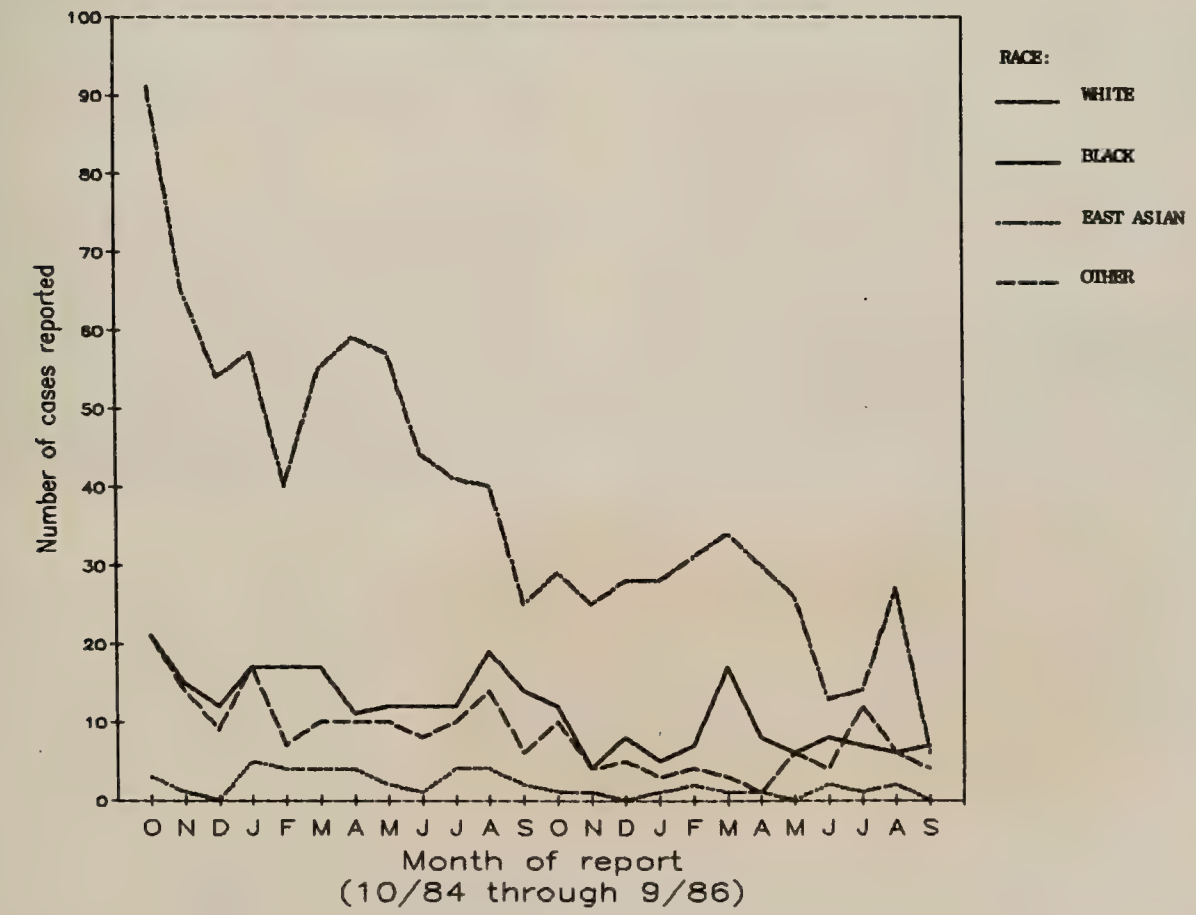

Figure 2. Rectal gonorrhea cases by race and month of report, San Francisco, October 1984 through September 1986

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING Nov. 1, 1986

DISEASE	CASES REPORTED WEEKS 40 THROUGH 44			TOTAL CASES REPORTED TO DATE		
	1984	1985	1986	1984	1985	1986
AIDS	63	64	120	415	632	931
AMEBIASIS	62	65	50	622	670	497
CAMPYLOBACTER	34	60	64	274	432	578
COCCIDIOIDOMYCOSIS	1	-	-	2	8	3
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	95	91	81	704	702	739
GIARDIASIS	45	70	50	225	476	357
GONORRHEA	944	659	663	7359	6237	5100
HEPATITIS Type A	10	15	21	73	148	116
HEPATITIS Type B	16	23	19	224	175	138
HEPATITIS Non A-Non B	2	2	-	38	24	31
HEPATITIS Type Unspecified	5	1	3	22	16	16
LEPROSY		2	1		54	9
MALARIA	3	4	2	36	24	21
MEASLES	1	-	-	16	1	2
MENINGITIS, BACTERIAL	1	1	-	6	12	11
MENINGITIS, VIRAL	1	2	1	9	13	10
MUMPS	-	1	3	11	9	7
PERTUSSIS	-	-	-	2	2	4
PSITTACOSIS	1	-	2	1	4	3
RUBELLA		1	-		6	5
SALMONELLOSIS	26	26	24	163	185	200
SHIGELLOSIS	41	44	37	369	320	363
SYPHILIS, Total	115	93	59	1181	817	708
SYPHILIS, Primary & Secondary	73	49	18	684	436	317
TUBERCULOSIS (all forms)	35	27	28	232	240	241
TYPHOID FEVER	1	2	-	8	9	5
Total deaths reported this period		761	746		7301	6858
Deaths from pneumonia this period		19	18		261	229

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Vol.3, No. 1 January 1987

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Update: Influenza Activity - Worldwide, United States and San Francisco*

Worldwide

USSR. Reports from the USSR indicate that during the last week of October acute respiratory disease morbidity reached epidemic levels in 43% of USSR cities (26 of 60) that have surveillance for influenza-like illness. Influenza A(H1N1) and A (H3N2) viruses have been isolated in some cities in the USSR, and there is also preliminary serological evidence of influenza B virus in the country.

Other Reports. In September, an outbreak in a boys' boarding school in England affected about one-third of the students. The outbreak ended within 10 days; influenza A(H1N1) virus was isolated from one student. In November, isolates of A(H1N1) were reported in association with sporadically occurring cases in the German Democratic Republic, the Federal Republic of Germany and the Democratic Peoples Republic of Korea. Serologic testing implicated influenza A(H1N1) in sporadically occurring cases in France and Norway during November and in outbreaks of influenza-like illness in Jamaica during October.

Influenza type A(H3N2) has been reported in association with sporadically occurring cases in the Democratic Peoples Republic of Korea.

Between late September and early November, influenza B virus was isolated from three children during an outbreak in Panama and from two patients with sporadically occurring cases in Senegal. Serologic testing has also implicated influenza B in sporadically occurring cases in France.

In Turkey, widespread outbreaks of clinically diagnosed influenza among children have forced some schools to close.

United States

On November 6, a 62-year-old resident of Tucson, Arizona, had onset of a febrile respiratory illness with exacerbation of his underlying chronic obstructive pulmonary disease. He was hospitalized on November 7, and a nasopharyngeal swab was collected on the day of admission. Type A influenza virus was confirmed by rapid indirect fluorescent antibody staining, and treatment with amantadine began on the same day. The patient recovered from his acute respiratory illness and was discharged to another hospital for treatment of an unrelated problem. He had not traveled before his illness, and influenza had not been previously identified in Arizona this season. Subsequent testing identified the virus isolate as type A(H3N2). This is the first report of this subtype from the United States this season.

Eighteen states and the District of Columbia have now reported isolates of type A(H1N1) influenza virus. Most isolates have been obtained from children and young adults. Two states, California and Texas, have reported isolates of type B influenza from sporadically occurring cases.

*Adapted from MMWR 1986 Dec 19;35(50):782-3.

San Francisco Comment:

San Francisco has confirmed 10 cases of influenza so far this season. Six were confirmed by culture and an additional four by serology. All six isolates from San Francisco were A(H1N1): two of them were confirmed to be Taiwan strain by the State laboratory.

Laboratories for other California counties have reported a total of 37 isolates of influenza virus, 36 of which were A(H1N1). A single isolate of influenza B was found in October 1986, early in the season.

While most of the H1N1 isolates have not been typed to determine whether or not they were Taiwan, all indications are that the Taiwan strain is dominating influenza morbidity this year. Our influenza surveillance system has shown a gradual rise in school absenteeism and upper respiratory illness in children since the beginning of the year. This indicates that influenza this season is affecting the younger segment of the population, which would be expected with the Taiwan strain which has primarily affected individuals under the age of 35.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING Nov. 29, 1986

DISEASE	CASES REPORTED WEEKS 45 THROUGH 48			TOTAL CASES REPORTED TO DATE		
	1984	1985	1986	1984	1985	1986
AIDS	48	69	108	463	701	1039
AMEBIASIS	39	57	29	661	727	526
CAMPYLOBACTER	28	34	43	302	466	621
COCCIDIOIDOMYCOSIS	-	-	-	2	8	3
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	60	47	82	764	749	821
GIARDIASIS	36	18	29	261	494	383
GONORRHEA	652	463	600	8011	6700	5700
HEPATITIS Type A	8	13	11	81	161	128
HEPATITIS Type B	15	15	9	239	190	146
HEPATITIS Non A-Non B	2	-	-	40	24	30
HEPATITIS Type Unspecified	-	-	1	22	16	16
LEPROSY		-	1		54	10
MALARIA	5	2	5	41	26	26
MEASLES	-	-	-	16	1	2
MENINGITIS, BACTERIAL	1	4	5	7	16	16
MENINGITIS, VIRAL	-	1	1	9	14	11
MUMPS	1	-	-	12	9	9
PERTUSSIS	-	-	-	2	2	4
PSITTACOSIS	-	1	-	1	5	3
RUBELLA		1	-		7	5
SALMONELLOSIS	14	15	27	177	200	236
SHIGELLOSIS	29	22	20	398	342	382
SYPHILIS, Total	85	79	57	1266	896	765
SYPHILIS, Primary & Secondary	52	36	21	736	472	338
TUBERCULOSIS (all forms)	15	36	26	247	276	267
TYPHOID FEVER	1	2	1	9	11	6
Total deaths reported this period		658	598		7959	7456
Deaths from pneumonia this period		22	15		283	229

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Vol.3,No.2 February 1987

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1985 - 1986 INDEX

	volume	number
AIDS		
First 1,000 cases, San Francisco	1	2
Revision of case definition for national reporting	1	3
Intravenous drug users, San Francisco	2	5
And tuberculosis, San Francisco 1981-1985	2	6
Racial and ethnic minorities, San Francisco	2	9
Current status and projections, San Francisco	2	11
Guidelines for control of perinatally transmitted HTLV-III/LAV associated infection and care of infected mothers, infants and children	2	Supplement 1
COMMUNICABLE DISEASE		
Reporting requirements	1	3
EPSTEIN-BARR VIRUS		
Chronic fatigue as a manifestation of EBV-Nevada	2	7
GASTROENTERITIS		
Outbreak, Camp Mather, Tuolumne County	2	1
GONORRHEA		
Rectal Gonorrhea, San Francisco	2	12
HEPATITIS A		
Food-borne outbreak	1	1
INFLUENZA		
Update: United States and San Francisco	2	2
Haemophilus	2	4
Influenza Type A: Amantadine prophylaxis for Medi-Cal eligible patients	2	7
Influenza Type A: Antigenic variation	2	9
MALARIA		
Prophylaxis in chloroquine-resistant areas	2	3
MEASLES		
San Francisco, 1980-1985	2	4
SHIGELLA		
Restaurant-associated outbreak	2	8
San Francisco, 1977-1985	2	10

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Preventable Tetanus - San Bernardino County*

In April 1986, a 63 year old woman living in San Bernardino County cut her right forearm while using a garden edger. She did not seek immediate medical attention but irrigated the wound with hydrogen peroxide and applied neomycin ointment daily. She had last received a tetanus toxoid dose in 1971 but was unsure of her prior immunization history. The wound appeared to be healing without signs of infection but on the ninth day after injury she developed cramping and tightening sensations in the muscles of her right forearm and hand, plus slight tightness in her jaw. The next day she went to a local emergency room where she was given tetanus "prophylaxis" with tetanus toxoid 0.5 ml IM, tetanus immune globulin (TIG) 250 units IM, and oral penicillin 250 mg 4 times a day prescribed for 10 days. During the next 2 days she experienced increased tightness and pain in her right upper arm, then dysphagia and choking sensations that precluded her taking oral medication.

At that point she went to a local hospital where she was found to have marked spasms of her masseter muscles as well as spasms of the muscles of the right shoulder, upper arm, forearm and hand. A tender 1.5 cm scab with surrounding mild erythema was noted on the right forearm at the site of her original injury.

A diagnosis of tetanus was made; the patient was admitted and promptly given tetanus immune globulin (TIG) 1000 units IV followed by 2000 units IM, plus diazepam. The wound was debrided and irrigated with hydrogen peroxide. In all, she received a total of 6,500 units of TIG. She also was given penicillin G, 1,000,000 units IV every 6 hours for 4 days. Within 4 days she was able to eat unassisted and after 18 days she was discharged. She recovered fully.

COMMENT: Tetanus is caused by *Clostridium tetani*, an anaerobic spore-forming bacterium which is found chiefly in soil and animal feces. In tetanus cases, the spores are usually introduced by injury to the skin, though wounds may not be very obvious and may not be apparent at all when tetanus symptoms begin. The presence of other organisms and necrotic tissue enhances reversion of spores to the vegetative form which produces a potent neurotoxin that is released upon cell lysis. The incubation period is generally 3 to 21 days. Approximately 100 cases are reported annually in the U.S., of which 5 to 10 are in California. The overall case-fatality ratio in recent years has been 25% but it is 50% in patients age 60 years and older (1).

Although rare, tetanus remains a health problem because of its serious morbidity and high case-fatality ratio. It can be prevented by a) maintenance of high levels of immunity through routine immunization and b) prompt and appropriate wound management (2). Had this patient received a full primary immunization series and been up-to-date on boosters and/or had she sought medical attention promptly after receiving her wound, her illness could have been prevented. Approximately 95% of U.S. tetanus cases reported in 1982-1984 had not received a primary immunization series (1). Currently, the USPHS Immunization Practices Advisory Committee (ACIP) recommends a primary series of at least three doses, with a booster every 10 years thereafter (2). Since patients rarely seek routine tetanus toxoid boosters on their own, physicians (particularly physicians taking care of adults) should routinely ascertain the immunization history of their patients and administer tetanus-diphtheria toxoids as indicated.

References:
1) MMWR 1985; 34:602-611.
2) MMWR 1985; 34:405-414, 419-426.

Reported by: C Jackson, RN; AF Taylor, MPH; GR Pettersen, MD, MPH; San Bernardino County Department of Public Health; and LJ Parker, MD and FD Tawadrous, MD.

* Adapted from California Morbidity, October 24, 1986, #42.

A I D S

M O N T H L Y G R A N D R O U N D S

The Department of Public Health will be holding the second in an ongoing series of monthly Grand Rounds on the epidemiologic, clinical, and public health aspects of the AIDS epidemic in San Francisco.

The meeting will be held Wednesday, March 25, 1987, in Room 300, 101 Grove St., from 3:30 to 5:00 P.M.

The program on March 25 will include:

1.	AIDS Surveillance Update	George F. Lemp, Dr.P.H. Department of Public Health
2.	Predictors of AIDS among HIV infected men in San Francisco	Warren Winkelstein, Jr., M.D., M.P.H. School of Public Health University of California, Berkeley
3.	Oral manifestations of HIV infection	John Greenspan, BDS, PhD, FRCPath Deborah Greenspan, BDS University of California, San Francisco

CME credit availability is under investigation

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING Jan. 3, 1987

DISEASE	CASES REPORTED WEEKS 49 THROUGH 52			TOTAL CASES REPORTED TO DATE		
	1984	1985	*1986	1984	1985	*1986
AIDS	42	52	107	505	753	1146
AMEBIASIS	81	39	36	742	766	562
CAMPYLOBACTER	36	25	47	338	491	668
COCCIDIOIDOMYCOSIS	1	–	–	3	8	3
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	46	65	38	810	814	859
GIARDIASIS	60	29	26	321	523	409
GONORRHEA	530	461	576	8541	7161	6276
HEPATITIS Type A	6	11	7	87	172	135
HEPATITIS Type B	24	10	6	263	200	152
HEPATITIS Non A-Non B	1	–	3	41	24	33
HEPATITIS Type Unspecified	5	1	–	27	17	16
LEPROSY		–	1		54	11
MALARIA	1	4	2	42	30	28
MEASLES	–	–	–	16	1	2
MENINGITIS, BACTERIAL	3	1	–	10	17	16
MENINGITIS, VIRAL	–	–	–	9	14	11
MUMPS	2	2	–	14	11	9
PERTUSSIS	–	–	–	2	2	4
PSITTACOSIS	–	–	–	1	5	3
RUBELLA	2	1	–	2	8	5
SALMONELLOSIS	8	10	16	185	210	252
SHIGELLOSIS	22	19	45	420	361	427
SYPHILIS, Total	88	71	47	1354	967	812
SYPHILIS, Primary & Secondary	43	37	19	779	509	357
TUBERCULOSIS (all forms)	26	32	17	273	308	284
TYPHOID FEVER	1	–	–	10	11	6
Total deaths reported this period		678	860		8637	8316
Deaths from pneumonia this period		18	38		301	267

* Includes additional reporting week (53rd)

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Vol.3, No.3 March 1987

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Chlamydia Control Program in San Francisco: A beginning

Infections caused by *Chlamydia trachomatis* are now recognized as among the most prevalent - and the most damaging - of all sexually transmitted diseases (STDs) seen in the United States today (1). An estimated 4 million men, women and infants suffer from chlamydia infections each year. Because of potential reproductive complications, chlamydial infections are of greatest consequence in women. Chlamydia accounts for 40% of the 1 million recognized cases of pelvic inflammatory disease (PID) in women in the United States each year. These infections, in addition to other *C. trachomatis* infections of the fallopian tube not clinically recognized as PID, contribute significantly to infertility and the increasing number of ectopic pregnancies. While *C. trachomatis* infection is currently not a reportable disease at the national or state level, data obtained from metropolitan STD clinics suggest sharp increases in incidence in recent years (1).

Enormous costs are associated with chlamydia infections. Each year in this country, more than $1 billion in direct and indirect costs are expended on these infections (2). Many of these costs result from the management of women with PID and its complications (3) and from chlamydial pneumonia among infants. Further increase in the economic burden of chlamydia infections will occur as these infections become more prevalent.

In 1986 the Centers for Disease Control (CDC) issued guidelines for a chlamydia control program (2). This program provided criteria for presumptive treatment of *C. trachomatis* in symptomatic women with chlamydia-associated syndromes and in the sexual contacts of individuals treated for chlamydia. However, the disease can also progress in asymptomatic women. Control efforts which include screening of asymptomatic women have been limited by their costs. In recent years, antigen detection methods have offered a cost-effective alternative to cultures for case finding; however, these tests have remained relatively expensive and are less sensitive than tissue culture methods. Antigen detection testing methods currently available include direct smear FA test (Microtrak®) and an enzyme immunoassay (Chlamydiazyme®). For asymptomatic screening purposes, these tests are best used in populations with a relatively high prevalence of chlamydia infection. Limited resources currently available for testing and screening should be targeted toward high risk groups.

In June, 1986, the San Francisco Department of Public Health expanded its chlamydia control program to include screening of asymptomatic women at City Clinic, the municipal STD clinic. Individuals eligible for testing included: asymptomatic women; persons with chlamydia-associated symptomatic syndromes such as mucopurulent cervicitis, PID, nongonococcal urethritis (NGU), and epididymitis; and sexual partners of persons diagnosed with chlamydia, gonorrhea and chlamydia-associated syndromes. Preliminary results show an overall chlamydia infection rate of 15% of all patients tested. While this percentage is lower than the average of 20-30% reported from other STD clinics (4), information regarding antibiotic usage prior to testing was not available for all City Clinic patients tested and may have falsely lowered the rate of infection. Antibiotic information is currently being collected to control for antibiotic use in rate calculations. Chlamydia infection rates among City Clinic patients by age (Figure 1) were comparable to previously reported studies, where genital infection rates appear to be inversely related to age (5,6). Chlamydia infection rates among blacks and Hispanics (16%) were greater than the rate for white persons (13%).

In early 1987, the screening component of the Chlamydia Control Program was ex-

panded to other city facilities, including teen clinics, family planning clinics, jails, and the Youth Guidance Center; plans for extending testing to other clinics are underway. Data on individual characteristics, sexual practices, symptoms, antibiotic usage, and contraceptive methods are being collected to establish a profile of San Francisco patients at increased risk of developing *C. trachomatis* infection. These data will be used to develop a comprehensive chlamydia control program for San Francisco.

Prevention of infection remains the most successful approach to chlamydia control. Education of health professionals and the public is essential for prevention. Clinicians should be alerted to syndromes associated with chlamydia and to the profile of high risk patients. Persons with the following syndromes should receive treatment for chlamydia infection:

1. Nongonococcal urethritis (NGU)
2. Mucopurulent cervicitis (MPC)
3. Pelvic inflammatory disease (PID)
4. Epididymitis (men ≤34 years of age)
5. Infection with gonorrhea
6. Sexual contact with any individual with the above syndromes.

Patients should be counseled to refer all sex partners for evaluation and treatment, to take all medications as directed, and to use condoms in order to reduce the future risk of chlamydia infection. Clinicians unable to test or evaluate high risk patients or their sex partners can refer them to City Clinic.

A surveillance system is necessary for the prevention and control of chlamydial infections. Until statewide chlamydia, NGU, and PID reporting regulations are finalized, the Bureau of Communicable Disease Control strongly encourages reporting of all chlamydia-associated morbidity to the STD Control division. This includes cases of laboratory-diagnosed chlamydia infection, NGU, and PID/acute salpingitis.

Editorial note. Cases can be reported by telephone to 864-8100, or by confidential morbidity report (CMR) card. CMR cards are available in quantity and can be obtained by calling 558-2926. STD treatment guidelines have been published by CDC (7).

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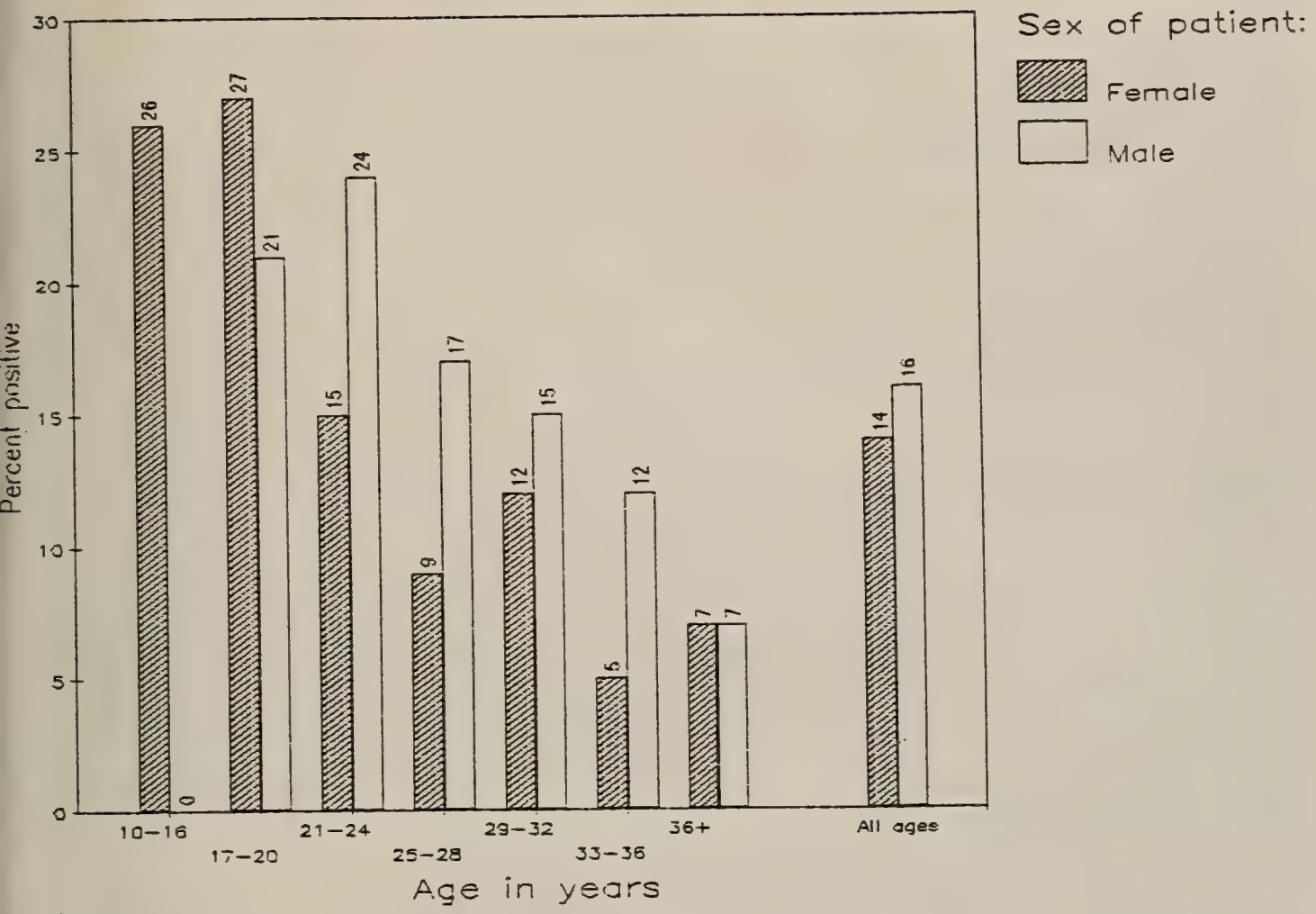

Figure 1. Positivity rates for C. trachomatis infection in patients seen at San Francisco City Clinic between 6/1/86 and 12/31/86. Note: Microtrak® test used.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING January 31, 1987

DISEASE	CASES REPORTED WEEKS 1 THROUGH 4			TOTAL CASES REPORTED TO DATE		
	1985	1986	1987	1985	1986	1987
AIDS	49	60	94	49	60	94
AMEBIASIS	77	36	21	77	36	21
CAMPYLOBACTER	23	22	30	23	22	30
COCCIDIOIDOMYCOSIS						
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	39	36	57	39	36	57
GIARDIASIS	51	32	18	51	32	18
GONORRHEA	737	374	500	737	374	500
HEPATITIS Type A	11	10	8	11	10	8
HEPATITIS Type B	21	9	17	21	9	17
HEPATITIS Non A-Non B		4	2		4	2
HEPATITIS Type Unspecified	4		1	4		1
LEPROSY		3			3	
MALARIA	3	1	2	3	1	2
MEASLES						
MENINGITIS, BACTERIAL	2			2		
MENINGITIS, VIRAL			1			1
MUMPS						
PERTUSSIS						
PSITTACOSIS	1			1		
RUBELLA						
SALMONELLOSIS	15	12	24	15	12	24
SHIGELLOSIS	19	26	29	19	26	29
SYPHILIS, Total	95	49	42	95	49	42
SYPHILIS, Primary & Secondary	55	20	23	55	20	23
TUBERCULOSIS (all forms)	15	22	27	15	22	27
TYPHOID FEVER	1		1	1		1

Total deaths reported this period	722	757	722	757
Deaths from pneumonia this period	35	34	35	34

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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

Vol. 3, Supplement 1 March, 1987

SF
P70
#85
MAR 87
SUPPLEMENT 1

Education of Children Infected with Human Immunodeficiency Virus

City and County of San Francisco
Department of Public Health
Perinatal and Pediatric AIDS Advisory Committee

DOCUMENTS DEPT.

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The information and recommendations contained in this document were developed and compiled by a special task force of the Department of Public Health, City and County of San Francisco, which included representatives of the Department of Pediatrics, San Francisco General Hospital and University of California, San Francisco; the San Francisco Unified School District; and the Department of Public Health.

These recommendations apply to all pre-school and school-aged children infected with human immunodeficiency virus (HIV), previously known as T-lymphotropic virus-type III/lymphadenopathy-associated virus (HTLV-III/LAV). These include children with Centers for Disease Control (CDC)-defined acquired immunodeficiency syndrome (AIDS); children with lesser clinical manifestations of HIV infection such as AIDS-related complex (ARC), and children with asymptomatic HIV infection.

These guidelines are intended to supplement previously published national guidelines for the education and foster care of HIV-infected children (1, Attachment), the Surgeon General's report on AIDS (2), and guidelines for the control of perinatally transmitted HIV infection and care of infected mothers, infants, and children (3). They have been approved by the San Francisco Health Commission and the San Francisco Board of Education.

BACKGROUND

Pediatric AIDS

The infection of children with HIV has been well established (4). Unlike adult HIV infection where the primary mode of virus transmission is through sexual contact, the primary modes of transmission in childhood HIV infection are perinatal (5-14) and parenteral (15-16). Infants and children infected with HIV demonstrate a full range of host responses, from asymptomatic infection to frank clinical AIDS. It is not, however, known what proportion of infected children will develop clinical disease nor what the long-term natural history of childhood HIV infection is. As of December 1, 1986, 403 cases of pediatric AIDS had been reported to CDC (CDC, unpublished data). Three hundred nineteen (79 percent) of these children were born to mothers who either had AIDS or were at increased risk for AIDS. An additional 74 (18 percent) children were infected through transfusions of blood or blood products, and 10 (2 percent) had unknown sources of infection. Thus, 79 percent of the cases had been infected with HIV perinatally and 18 percent parenterally.

Perinatally infected infants who develop AIDS first develop symptoms at a median age of four months and approximately one-half of these infants will be diagnosed as having AIDS by their first birthday (4). Only five percent of perinatally infected infants are diagnosed at five years of age or older. Children infected parenterally through infected blood transfusions present with symptoms of AIDS at a median age of one year. Children, primarily hemophiliacs, parenterally infected through transfusion of infected blood products, however, present in the second decade of life with a median age of fourteen years.

HIV Transmission in Households

None of the identified cases of HIV infection in the United States are known to have been transmitted in school, day care, or foster care settings, or through other casual person-to-person contact (1). Other than sexual partners of HIV-infected patients, infants born to infected mothers, or a single case involving nosocomial transmission from a child to a mother providing nursing care (17), none of the family members of the over 20,000 AIDS patients reported to CDC have developed AIDS. Seven studies of family members of patients with HIV infection have failed to demonstrate HIV transmission to adults who are not sexual contacts of the infected patients or to children who have not already been infected perinatally (18-28). However, if casual person-to-person transmission of HIV infection does exist, it should theoretically be greatest among young children. This theoretical transmission would most likely involve exposure of open skin lesions or mucous membranes to blood and possibly other body fluids of an infected person. We emphasize that

there is no evidence of this type of transmission occurring in any setting.

Legal Issues

The following legal issues are salient to these guidelines: the civil rights aspects of public school attendance, the protection of handicapped children under 20 U.S.C. 1401 *et seq.* and 29 U.S.C. 794, confidentiality of a student school record under 20 U.S.C. 1232 g, the confidentiality of anti-HIV antibody test results under California Health and Safety Code 199.21, and the protection of AIDS patients against discrimination under the San Francisco AIDS Anti-Discrimination Ordinance.

Confidentiality Issues

The diagnoses of AIDS or AIDS-associated illnesses evoke much fear from others in contact with the patient and may evoke suspicion of lifestyles that may not be acceptable to some persons. Parents of HIV-infected children should be aware of potential for isolation should the child's condition become known to others in the educational setting. School and social service personnel and others involved in educating these children should be sensitive to the need for confidentiality and the right to privacy in these cases.

RECOMMENDATIONS

1. Education. Because of enormous public concern and opportunities for preventive health education, we recommend that the San Francisco Unified School District continue its efforts to educate parents, students, and school personnel about AIDS, HIV infection, HIV transmission, and the social implications of AIDS and HIV infection. Especially important is the proposed addition of a module on AIDS and HIV in the family life education curriculum.

2. School Personnel. There is no known reason for testing school personnel under any circumstances whatsoever. We recommend that school personnel not be screened for HIV infection.

3. Students. At the present time there are very few pre-school and school-aged children infected with HIV in San Francisco. Because of the intense publicity surrounding the enrollment of AIDS patients in public schools and incidents of breaches of confidentiality and frank discrimination, parents of infected children are undoubtedly reluctant to reveal their child's infection. However, in order to protect an HIV-infected child from infections in the classroom and to promptly notify the child's medical provider when exposures to potentially life-threatening communicable diseases occur, it is to the child's advantage that someone in the school be aware the child is immunosuppressed. In order to encourage such disclosures, a climate of acceptance, confidentiality, and respect needs to be created through education.

In previously published guidelines for the care of HIV-infected infants and pre-school-aged children (3), it was recommended that infants exposed to or infected with HIV and children infected with HIV should not receive live virus vaccines, including oral polio, measles, mumps, and rubella vaccines, and that inactivated polio vaccine be given in conjunction with diphtheria and tetanus toxoids and pertussis vaccines at 2,4,6 and 18 months and 4-6 years of age. Therefore, as measles, mumps, and rubella vaccines are medically contraindicated for children infected with HIV, they are not required for school entry or attendance. These vaccination guidelines apply both to children known to be infected with HIV and to those at high risk of being infected with HIV whose serologic status is unknown.

a. Day Care and Pre-School. Until more is known about the risk of HIV-infected children acquiring potentially harmful infections in day care and pre-school settings, we recommend that HIV-infected

infants and younger pre-school-aged children under three years of age not attend routine day care. We recommend that these children be educated and cared for in restricted settings, i.e., individually, with other HIV-infected children, or with siblings. In these settings, we recommend that a single provider know of their infection and follow CDC guidelines 4 and 5. Because the risk of fecal-oral transmission of diseases diminishes greatly after toilet training, the benefits of an unrestricted pre-school setting in which all attendees are toilet trained outweigh the risks of an infected child acquiring potentially harmful infections and the apparently nonexistant risk of HIV transmission. We recommend that, in general, infected pre-school-aged children three years old and older with asymptomatic infection or mild clinical disease can attend pre-school as long as all children in the school are toilet trained. However, because circumstances vary from pre-school to pre-school, we also recommend that the case of each child be considered individually by a small subgroup of this committee with appropriate input from the pre-school to be attended.

b. Elementary and Junior and Senior High Schools. We recommend that, in general, infected school-aged children be allowed to attend elementary and junior and senior high school without restriction. However, as certain circumstances of an individual patient's disease may dictate that he or she be best educated in a particular school setting, we recommend that the medical history of every HIV-infected child be reviewed by a joint committee of the Department of Public Health and the San Francisco Unified School District and that an appropriate class placement be recommended to the Superintendent of the San Francisco Unified School District. The final decisions involving health matters will rest with the Director of Health. These recommendations will be reviewed annually or more often if requested by the child's principal or family.

4. Confidentiality. We recommend that the Superintendent or his designee be informed that an HIV-infected child is to be placed in a particular school if the child is, in the opinion of the committee, clinically immunosuppressed. As discussed previously, as a result of his or her immunosuppression, this child will be exempted from required vaccinations with measles-mumps-rubella vaccine and will need to be excluded from school should exposures to measles, mumps, rubella, or varicella occur. Moreover, the Superintendent or his designee should be informed of the potential severity of the child's immunosuppression and be instructed to notify the child's parent or guardian or the child's medical provider should such exposures occur.

5. Body Secretions and Disinfection Precautions. We recommend that the precautions outlined by CDC and other infection control guidelines available through the California Department of Education be adopted by the San Francisco Unified School District. We recommend that school personnel be trained in uniform procedures for handling blood and body secretions and that these procedures be observed for cleaning and disinfection of blood and body secretions in the schools. These procedures will provide protection against a wide variety of communicable diseases.

CONCLUSIONS

We emphasize that these are interim guidelines which will need to be reviewed as more information becomes available on the natural history of HIV infection in childhood, household transmission, safety of live virus vaccines, and exposure of HIV infected children to common communicable diseases. Additionally, as vaccine and definitive antiviral therapy become available, further review will be warranted. Finally, it should be clearly stated that all evidence indicates that there is no risk for casual transmission of HIV and that the intent of these guidelines is to assure appropriate educational opportunities for HIV-infected pre-school- and school-aged children.

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CENTERS FOR DISEASE CONTROL

MMWR

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Current Trends

Education and Foster Care of Children Infected with Human T-Lymphotropic Virus Type III/ Lymphadenopathy-Associated Virus

The information and recommendations contained in this document were developed and compiled by CDC in consultation with individuals appointed by their organizations to represent the Conference of State and Territorial Epidemiologists, the Association of State and Territorial Health Officers, the National Association of County Health Officers, the Division of Maternal and Child Health (Health Resources and Services Administration), the National Association for Elementary School Principals, the National Association of State School Nurse Consultants, the National Congress of Parents and Teachers, and the Children's Aid Society. The consultants also included the mother of a child with acquired immunodeficiency syndrome (AIDS), a legal advisor to a state education department, and several pediatricians who are experts in the field of pediatric AIDS. This document is made available to assist state and local health and education departments in developing guidelines for their particular situations and locations.

These recommendations apply to all children known to be infected with human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV). This includes children with AIDS as defined for reporting purposes (Table 1); children who are diagnosed by their physicians as having an illness due to infection with HTLV-III/LAV but who do not meet the case definition, and children who are asymptomatic but have virologic or serologic evidence of infection with HTLV-III/LAV. These recommendations do not apply to siblings of infected children unless they are also infected.

BACKGROUND

The Scope of the Problem. As of August 20, 1985, 183 of the 12,599 reported cases of AIDS in the United States were among children under 18 years of age. This number is expected to double in the next year. Children with AIDS have been reported from 23 states, the District of Columbia, and Puerto Rico, with 75% residing in New York, California, Florida, and New Jersey.

The 183 AIDS patients reported to CDC represent only the most severe form of HTLV-III/LAV infection, i.e., those children who develop opportunistic infections or malignancies (Table 1). As in adults with HTLV-III/LAV infection, many infected children may have milder illness or may be asymptomatic.

Legal Issues. Among the legal issues to be considered in forming guidelines for the education and foster care of HTLV-III/LAV-infected children are the civil rights aspects of public school attendance, the protections for handicapped children under 20 U.S.C. 1401 et seq. and 29 U.S.C. 794, the confidentiality of a student's school record under state laws and under 20 U.S.C. 1232g, and employee right-to-know statutes for public employees in some states.

Confidentiality Issues. The diagnosis of AIDS or associated illnesses evokes much fear from others in contact with the patient and may evoke suspicion of life styles that may not be acceptable to some persons. Parents of HTLV-III/LAV-infected children should be aware of the potential for social isolation should the child's condition become known to others in the care or educational setting. School, day-care, and social service personnel and others involved in educating and caring for these children should be sensitive to the need for confidentiality and the right to privacy in these cases.

ASSESSMENT OF RISKS

Risk Factors for Acquiring HTLV-III/LAV Infection and Transmission. In adults and adolescents, HLTV-III/LAV is transmitted primarily through sexual contact (homosexual or heterosexual) and through parenteral exposure to infected blood or blood products. HTLV-III/LAV has been isolated from blood, semen, saliva, and tears but transmission has not been documented from saliva and tears. Adults at increased risk for acquiring HTLV-III/LAV include homosexual/bisexual men, intravenous drug abusers, persons transfused with contaminated blood or blood products, and sexual contacts of persons with HTLV-III/LAV infection or in groups at increased risk for infection.

The majority of infected children acquire the virus from their infected mothers in the perinatal period (*1-4*). In utero or intrapartum transmission are likely, and one child reported from Australia apparently acquired the virus postnatally, possibly from ingestion of breast milk (*5*). Children may also become infected through transfusion of blood or blood products that contain the virus. Seventy percent of the pediatric cases reported to CDC occurred among children whose parent had AIDS or was a member of a group at increased risk of acquiring HTLV-III/LAV infection; 20% of the cases occurred among children who had received blood or blood products; and for 10%, investigations are incomplete.

HTLV-III/LAV — Continued

TABLE 1. Provisional case definition for acquired immunodeficiency syndrome (AIDS) surveillance of children

For the limited purposes of epidemiologic surveillance, CDC defines a case of pediatric acquired immunodeficiency syndrome (AIDS) as a child who has had:

1. A reliably diagnosed disease at least moderately indicative of underlying cellular immunodeficiency, and
2. No known cause of underlying cellular immunodeficiency or any other reduced resistance reported to be associated with that disease.

The diseases accepted as sufficiently indicative of underlying cellular immunodeficiency are the same as those used in defining AIDS in adults. In the absence of these opportunistic diseases, a histologically confirmed diagnosis of chronic lymphoid interstitial pneumonitis will be considered indicative of AIDS unless test(s) for HTLV-III/LAV are negative. Congenital infections, e.g., toxoplasmosis or herpes simplex virus infection in the first month after birth or cytomegalovirus infection in the first 6 months after birth must be exluded.

Specific conditions that must be excluded in a child are:

1. Primary immunodeficiency diseases—severe combined immunodeficiency, DiGeorge syndrome, Wiskott-Aldrich syndrome, ataxia-telangiectasia, graft versus host disease, neutropenia, neutrophil function abnormality, agammaglobulinemia, or hypogammaglobulinemia with raised IgM.
2. Secondary immunodeficiency associated with immunosuppressive therapy, lymphoreticular malignancy, or starvation.

HTLV-III/LAV – Continued

Risk of Transmission in the School, Day-Care or Foster-Care Setting. None of the identified cases of HTLV-III/LAV infection in the United States are known to have been transmitted in the school, day-care, or foster-care setting or through other casual person-to-person contact. Other than the sexual partners of HTLV-III/LAV-infected patients and infants born to infected mothers, none of the family members of the over 12,000 AIDS patients reported to CDC have been reported to have AIDS. Six studies of family members of patients with HTLV-III/LAV infection have failed to demonstrate HTLV-III/LAV transmission to adults who were not sexual contacts of the infected patients or to older children who were not likely at risk from perinatal transmission (*6-11*).

Based on current evidence, casual person-to-person contact as would occur among schoolchildren appears to pose no risk. However, studies of the risk of transmission through contact between younger children and neurologically handicapped children who lack control of their body secretions are very limited. Based on experience with other communicable diseases, a theoretical potential for transmission would be greatest among these children. It should be emphasized that any theoretical transmission would most likely involve exposure of open skin lesions or mucous membranes to blood and possibly other body fluids of an infected person.

Risks to the Child with HTLV-III/LAV Infection. HTLV-III/LAV infection may result in immunodeficiency. Such children may have a greater risk of encountering infectious agents in a school or day-care setting than at home. Foster homes with multiple children may also increase the risk. In addition, younger children and neurologically handicapped children who may display behaviors such as mouthing of toys would be expected to be at greater risk for acquiring infections. Immunodepressed children are also at greater risk of suffering severe complications from such infections as chickenpox, cytomegalovirus, tuberculosis, herpes simplex, and measles. Assessment of the risk to the immunodepressed child is best made by the child's physician who is aware of the child's immune status. The risk of acquiring some infections, such as chickenpox, may be reduced by prompt use of specific immune globulin following a known exposure.

RECOMMENDATIONS

1. Decisions regarding the type of educational and care setting for HTLV-III/LAV-infected children should be based on the behavior, neurologic development, and physical condition of the child and the expected type of interaction with others in that setting. These decisions are best made using the team approach including the child's physician, public health personnel, the child's parent or guardian, and personnel associated with the proposed care or educational setting. In each case, risks and benefits to both the infected child and to others in the setting should be weighed.
2. For most infected school-aged children, the benefits of an unrestricted setting would outweigh the risks of their acquiring potentially harmful infections in the setting and the apparent nonexistent risk of transmission of HTLV-III/LAV. These children should be allowed to attend school and after-school day-care and to be placed in a foster home in an unrestricted setting.
3. For the infected preschool-aged child and for some neurologically handicapped children who lack control of their body secretions or who display behavior, such as biting, and those children who have uncoverable, oozing lesions, a more restricted environment is advisable until more is known about transmission in these settings. Children infected with HTLV-III LAV should be cared for and educated in settings that minimize exposure of other children to blood or body fluids.

HTLV-III LAV – Continued

4. Care involving exposure to the infected child's body fluids and excrement, such as feeding and diaper changing, should be performed by persons who are aware of the child's HTLV-III LAV infection and the modes of possible transmission. In any setting involving an HTLV-III LAV-infected person, good handwashing after exposure to blood and body fluids and before caring for another child should be observed, and gloves should be worn if open lesions are present on the caretaker's hands. Any open lesions on the infected person should also be covered.
5. Because other infections in addition to HTLV-III/LAV can be present in blood or body fluids, all schools and day-care facilities, regardless of whether children with HTLV-III/LAV infection are attending, should adopt routine procedures for handling blood or body fluids. Soiled surfaces should be promptly cleaned with disinfectants, such as household bleach (diluted 1 part bleach to 10 parts water). Disposable towels or tissues should be used whenever possible, and mops should be rinsed in the disinfectant. Those who are cleaning should avoid exposure of open skin lesions or mucous membranes to the blood or body fluids.
6. The hygienic practices of children with HTLV-III/LAV infection may improve as the child matures. Alternatively, the hygienic practices may deteriorate if the child's condition worsens. Evaluation to assess the need for a restricted environment should be performed regularly.
7. Physicians caring for children born to mothers with AIDS or at increased risk of acquiring HTLV-III LAV infection should consider testing the children for evidence of HTLV-III LAV infection for medical reasons. For example, vaccination of infected children with live virus vaccines, such as the measles-mumps-rubella vaccine (MMR), may be hazardous. These children also need to be followed closely for problems with growth and development and given prompt and aggressive therapy for infections and exposure to potentially lethal infections, such as varicella. In the event that an antiviral agent or other therapy for HTLV-III/LAV infection becomes available, these children should be considered for such therapy. Knowledge that a child is infected will allow parents and other caretakers to take precautions when exposed to the blood and body fluids of the child.
8. Adoption and foster-care agencies should consider adding HTLV-III/LAV screening to their routine medical evaluations of children at increased risk of infection before placement in the foster or adoptive home, since these parents must make decisions regarding the medical care of the child and must consider the possible social and psychological effects on their families.
9. Mandatory screening as a condition for school entry is not warranted based on available data.
10. Persons involved in the care and education of HTLV-III/LAV-infected children should respect the child's right to privacy, including maintaining confidential records. The number of personnel who are aware of the child's condition should be kept at a minimum needed to assure proper care of the child and to detect situations where the potential for transmission may increase (e.g., bleeding injury).
11. All educational and public health departments, regardless of whether HTLV-III/LAV-infected children are involved, are strongly encouraged to inform parents, children, and educators regarding HTLV-III/LAV and its transmission. Such education would greatly assist efforts to provide the best care and education for infected children while minimizing the risk of transmission to others.

HTLV-III/LAV – Continued

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Vol.3, No.4 April 1987

Antibody to Human Immunodeficiency Virus in Female Prostitutes*

Seroprevalence surveys for antibody to human immunodeficiency virus (HIV) in women with histories of prostitution have shown varying results since testing began in 1984. In sub-Saharan Africa, where HIV is thought to be transmitted primarily through heterosexual exposure (1-3), one (1%) of 98 prostitutes tested in Accra, Ghana (4), to 29 (88%) of 33 prostitutes in Ngoma, Rwanda (5), had HIV antibody (3-7). In Europe, where homosexual exposure and abuse of intravenous (IV) drugs are major risk factors for HIV infection (8), none of 50 prostitutes tested in London (9), none of 56 in Paris (10), and none of 399 in Nuremberg, West Germany (11), had antibody to HIV. However, 10 (71%) of 14 prostitutes who abused IV drugs in Pordenone, Italy (12), and 14 (78%) of 18 who abused IV drugs in Zurich, Switzerland (13), were infected. Seventeen (1%) of nearly 2,000 registered prostitutes in six West German cities were HIV-antibody positive; half of these infected women abused IV drugs (14). In Athens, Greece, 12 (6%) of 200 registered prostitutes were HIV-antibody positive; none abused IV drugs (15).

As of March 10, 1987, 2,159 women in the United States were reported to have met the CDC surveillance case definition for AIDS. The cumulative incidence of AIDS in black and Hispanic women was more than 10 times that for white women (16). Over 70% of these women reported with AIDS resided in New York, New Jersey, or Florida (17). Over half (51%) had abused IV drugs; 27% were sexual partners of men with AIDS or at risk for AIDS; and 10% had received transfusions of blood or blood products. No risk factors have as yet been reported for the remaining 12% (18).

To assess HIV-antibody prevalence and determine risk factors in U.S. prostitutes, CDC is collaborating with others in an ongoing, cross-sectional study of women who have engaged in prostitution in seven geographic areas: Atlanta, Colorado Springs, Las Vegas, Los Angeles, Miami, Newark-Jersey City-Paterson, and San Francisco. Some collaborators are recruiting primarily incarcerated women (Los Angeles and Miami). Others are recruiting primarily through sexually transmitted disease (STD) clinics (Colorado Springs and Las Vegas); methadone maintenance clinics (the three northern New Jersey cities); or outreach efforts, such as newspaper advertising, circulation of pamphlets, and direct contacts on the street (Atlanta and San Francisco). Study participants are not necessarily representative of all female prostitutes in these areas.

For this study, prostitution is defined as the exchange of physical-sexual services for money or drugs. Any woman ≥ 18 years of age who has engaged in prostitution at least once since January 1, 1978, is eligible. Participation entails voluntary, informed consent; names and other personal identifiers are not recorded. Participants are interviewed for their medical histories and sexual and other exposures. They are also examined for signs of HIV infection and IV-drug abuse and are asked to provide 10 ml of blood for serologic testing. Serum is tested for HIV antibody by enzyme immunoassay and Western blot methods.

The analysis reported here has been restricted to the 835 study participants who were tested for HIV antibody and the 568 study participants for whom an interview form was submitted to CDC before March 10, 1987. The prevalence of HIV antibody in prostitutes so far tends to parallel the cumulative incidence of AIDS in women in the seven research sites (Table 1), suggesting that risk factors for AIDS in female prostitutes may be similar to those in other women living in these geographic areas. The prevalence of HIV antibody in prostitutes and the cumulative incidence of AIDS in women are highest in northern New Jersey and Miami. In southern Nevada, where only one woman has been reported with AIDS, none of 34 prostitutes have

had HIV antibody.

In the seven areas, reported rates of AIDS were higher for black women (359.6/1,000,000) and Hispanic women (40.2/1,000,000) than for white (25.3/1,000,000) and other (Asian and Native American) women (16.2/1,000,000). Similarly, black and Hispanic prostitutes in these areas had a higher prevalence of HIV antibody (15%) than white and other prostitutes (7%) (odds ratio[OR]=2.5;95% confidence interval [CI]=1.4-4.4).

Half the prostitutes interviewed in this multicenter collaborative study gave histories of IV-drug abuse; 47 (76%) of 62 with antibody to HIV have injected drugs (OR=3.6;95% CI=2.0-6.7). IV-drug abuse is associated with HIV infection in prostitutes and with AIDS in women regardless of racial and ethnic background (Table 2).

Over 80% of prostitutes interviewed through January 1987 reported that at least one of their partners had used a condom. Husbands or boyfriends of the respondents were much less likely to use condoms during vaginal exposure than clients (16% as compared with 78%, p=0.005). Twenty-two (4%) prostitutes reported condom use with each vaginal exposure during the past 5 years. Eleven percent of 546 prostitutes with unprotected vaginal exposure were HIV-antibody positive; none of 22 prostitutes whose partners always used condoms were seropositive (p=0.10 after controlling for IV-drug abuse).

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* Reprinted from MMWR 1987 March 27; 36 (11):157-160.

TABLE 1. HIV antibody in female prostitutes and reported AIDS cases in women - selected cities, United States, March 10, 1987

	Female prostitutes		Women with AIDS*	
	HIV-antibody positive tested	Percent positive	No.	Cases/ 1,000,000+
Eastern United States				
Atlanta	1/92	(1.1)	8	12.5
Miami	47/252	(18.7)	100	145.3
Newark-Jersey City -Paterson	32/56	(57.1)	143	526.2
Western United States				
Colorado Springs	1/71	(1.4)	1	9.6
Las Vegas	0/34	(0.0)	1	16.0
Los Angeles	8/184	(4.3)	26	21.7
San Francisco	9/146	(6.2)	21	71.9

* Includes 45 women (≥16 years of age) from Miami and one from Newark who were born in countries where heterosexual transmission is believed to play a major role.
+ Rate based on the number of females (≥16 years of age) reported as residing in the urban area or place of study.

TABLE 2. Risk factors for HIV antibody in female prostitutes and for AIDS in women, by race or ethnic group - selected cities, United States, March 10, 1987.

	Female prostitutes*		Women with AIDS+	
	HIV-antibody positive/tested	Percent positive	No.	Percent of total
Black or Hispanic				
IV-drug abuser	31/124	(25.0)	108	(43.0)
Other, unknown	12/156§	(7.7)	143	(57.0)
Total	43/280	(15.4)	251	(100.0)
White or other				
IV-drug abuser	16/157	(10.2)	26	(53.1)
Other, unknown	3/127¶	(2.4)	23	(46.9)
Total	19/284	(6.7)	49	(100.0)

* Analysis restricted to the 564 study participants (of 835 tested) who answered the question regarding IV-drug abuse.
+ Includes 46 women who were born in countries where heterosexual transmission is believed to play a major role, who were reported to CDC as meeting the surveillance case definition for AIDS, and who were residents of one of the seven research sites.
§ Odds ratio = 4.0; 95% confidence interval = 2.0-8.2.
¶ Odds ratio = 4.7; 95% confidence interval = 1.3-16.5.

Prevalence of HIV antibody among prostitutes in the San Francisco Bay Area

In the March 27, 1987 issue of the Morbidity and Mortality Weekly Report, the Centers for Disease Control Collaborative Group on HIV Infection in Women reported on HIV antibody prevalence among prostitutes in seven United States research sites. One of the sites was the San Francisco Bay Area; reported here are details of this study group and comparisons with findings from the national study.

In the San Francisco Bay Area 146 women who met the study eligibility requirements were recruited through community outreach. Most were still engaging in prostitution. All San Francisco participants provided 10 ml of blood for serologic testing for antibody to HIV by enzyme immunoassay and Western blot methods. A standardized brief physical examination focused on signs of HIV infection and recent IV drug use (IVDU). Interview information included limited medical history, extent and type of sexual behavior with clients and steady partners, and use of barrier protection, as well as drug use.

In the San Francisco Bay Area cohort, the average age of participants was 27 years (range, 18 to 53); 16 women were less than 21 years of age. Most women (63%) had been born in California; 47% were white, 27% were black, 16% were Latina (Hispanic), and the remaining 10% were Asian, American Indian, or of mixed origin. Their prostitution histories varied: 45% had worked entirely on the streets, 16% had never done street work, and the remainder had mixed histories of street work plus other means of meeting customers (primarily hotels, escort services, and telephone arrangements). Length of work ranged from one month to over 34 years (median = 48 months), and number of paid customers ranged from 9 to 40,800 (median = 3,800).

Nine of 146 (6.2%) local sex industry women (prostitutes) were seropositive for HIV antibody. This rate was similar to the seroprevalence rate of 4.6% (8 of 124) in Los Angeles. California rates were much lower than rates reported from New Jersey and Miami but were higher than those reported from Colorado, Georgia, and Nevada. Differences in recruitment strategies could account for some of the variation in the infection rates. Differences in infection rates between areas paralleled differences in AIDS incidence in women.

All seropositive women in the San Francisco Bay Area study were current or former IVDU's (Table 1). While the positivity rate of black and Latina participants (8.1%) was greater than that of white participants (4.8%), the difference was not statistically significant (OR=1.75, 95% CI=0.45-6.82). Other sites in the national study reported more marked differences: black and Latina sex workers had an HIV seropositivity rate of 15.3% compared to 6.7% among white sex industry women from those areas. In the Bay Area these racial differences were not due to the prevalence of IV drug use in each group since the proportion of IVDU's among black and Latino women was 47%, similar to the 51% among white women.

Other factors associated with HIV seropositivity ($p < .01$) in the San Francisco Bay Area cohort were having a steady sex partner who was an IVDU and a history of more than one treatment for syphilis. However, while the majority (57%) of sex industry women in the Bay Area group reported condom use more than 90% of the time with customers, only 5% of all women used them consistently with their steady sex partners. The likelihood of STD transmission from women in this group, therefore, is relatively low. To the extent that their steady sex partners are engaged in high risk behaviors (IVDU, other high risk sexual partners), however, their own likelihood of acquiring STD's, including HIV, is increased.

In recognition of the interaction between drug use, prostitution, and infection risk, especially among street prostitutes, a collaboration of local organizations is developing outreach programs that promote safer sexual and IVDU behavior. Participating organizations include Project AWARE (Association for Womens AIDS Research and Education),

COYOTE (Call Off Your Old Tired Ethics, a prostitutes rights organization), Cal-PEP (California Prostitute Education Project), and the Mid-City Consortium (Project AWARE, COYOTE, San Francisco City Clinic, Haight-Ashbury Free Medical Clinic, Larkin Street Youth Center, Real Alternatives Program, and Youth Environment Study). Members of at-risk populations participate in the development of programs; programs include extensive one-to-one contact and group presentations in districts of extensive prostitution and drug use. For further information contact Project AWARE at 476-4091.

Reported by JB Cohen, MPH, PhD; LE Poole, RN, MS; LB Hauer, RN; CB Wofsy, MD, Project AWARE, AIDS Activities Division, San Francisco General Hospital.

TABLE 1. HIV antibody status by race and IV-drug use in female San Francisco sex workers

	Antibody Positive/Tested	Percent Antibody Positive
BLACK, LATINO		
IV Drug User	5/25	20.0
Non IVDU	0/37	0.0
WHITE, OTHER		
IV Drug User	4/36	11.0
Non IVDU	0/48	0.0
Total	9/146	6.2

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING February 28, 1987

DISEASE	CASES REPORTED WEEKS 5 THROUGH 8			TOTAL CASES REPORTED TO DATE		
	1985	1986	1987	1985	1986	1987
AIDS	54	85	110	103	145	204
AMEBIASIS	53	67	22	130	103	43
CAMPYLOBACTER	20	45	26	43	67	56
COCCIDIOIDOMYCOSIS						
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	61	36	60	100	72	117
GIARDIASIS	40	30	24	91	62	42
GONORRHEA	437	402	434	1174	776	934
HEPATITIS Type A	11	15	15	22	25	23
HEPATITIS Type B	23	9	12	44	18	29
HEPATITIS Non A-Non B	3	4	1	3	8	3
HEPATITIS Type Unspecified	5	3	-	9	3	1
LEPROSY	8	-	2	8	3	2
MALARIA	1	3	2	4	4	4
MEASLES		1			1	
MENINGITIS, BACTERIAL	2		2	4		2
MENINGITIS, VIRAL	1		-	1		1
MUMPS						
PERTUSSIS			1			1
PSITTACOSIS	1			2		
RUBELLA						
SALMONELLOSIS	12	26	14	27	38	38
SHIGELLOSIS	24	22	32	43	48	61
SYPHILIS, Total	71	79	39	166	128	81
SYPHILIS, Primary & Secondary	39	43	12	94	63	35
TUBERCULOSIS (all forms)	25	23	16	40	45	43
TYPHOID FEVER	-		-	1		1
Total deaths reported this period		709	706		1431	1463
Deaths from pneumonia this period		29	21		64	55

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The Emergence of Penicillinase-producing *Neisseria gonorrhoeae* in San Francisco as a Significant Problem: Recommendations for Control

The penicillinase-producing *Neisseria gonorrhoeae* (PPNG) were first recognized in 1976. These organisms are resistant to penicillins and tetracyclines but are susceptible to third-generation cephalosporins, aminoglycosides, and spectinomycin. They are highly prevalent in West Africa and in the Far East, especially in the Philippines, Singapore, and Thailand. Since 1980 cases of PPNG have been increasing in the United States (1), and are spreading to previously unaffected areas (Table 1).

In earlier PPNG outbreaks, travel to endemic areas and prostitute contact were cited as risk factors for infection (2). These factors may play an important role in the spread of PPNG disease to areas previously free of disease; however, once PPNG becomes endemic (defined as PPNG proportion of all gonorrhea >1%), it has the same epidemiologic characteristics as endemic, antibiotic-sensitive gonorrhea. PPNG patients have been predominantly inner city heterosexuals of ethnic minority groups. While PPNG infections are effectively treated with ceftriaxone or spectinomycin, patients with inadequately treated PPNG infection may be at high risk for complications, especially pelvic inflammatory disease among women. Once PPNG infection becomes endemic, eradication is extremely difficult and expensive.

In 1986, 16,608 cases of infection caused by PPNG were reported to the Centers for Disease Control (CDC) - a 90% increase over 1985 (3). These cases represented 1.8% of all reported gonorrhea in the United States and a four-fold rise since 1984. Thirty-seven percent of cases in 1986 occurred outside of the three areas previously identified as hyperendemic (defined as PPNG proportion of all gonorrhea >3%): Florida, New York City and Los Angeles (3).

Prior to 1987, San Francisco was not identified as a PPNG endemic area. In the first quarter of 1986, 9 PPNG infections were reported in San Francisco (0.7% of all reported gonorrhea). In contrast, 18 PPNG infections were reported in the first quarter of 1987, a 100% increase (Figure 1). More importantly, the proportion of total gonorrhea attributable to PPNG for the first quarter of 1987 was 1.4%, exceeding the 1% threshold of endemnicity as defined by the CDC (4). Characteristics of these 18 cases are compared with those of the 9 cases reported during the same time period in 1986 (Table 2). Risk factors for infection (such as travel to a PPNG endemic area or contact with a PPNG case) were identified in 7 of 9 cases (78%) in the first quarter of 1986, but only in 6 of 18 cases (38%) in the first quarter of 1987; Fisher's exact test, $p < 0.01$).

Because the proportion of PPNG in San Francisco is now >1%, San Francisco is currently defined as a PPNG endemic "hot spot" area. Cooperation is urgently needed to combat this public health emergency and to prevent further spread of these antibiotic-resistant organisms in San Francisco. Based on federal and state policy guidelines for control of PPNG, the following recommendations should be implemented immediately by all health care providers in San Francisco:

1. All suspected cases of gonorrhea (GC) must be cultured and all GC isolates must be screened for beta-lactamase production. Diagnosis of GC by smear alone with a follow up test of cure is not adequate. All isolates positive for beta-lactamase production should be sent promptly to: Public Health Laboratory, San Francisco Department of Public Health, 101 Grove St., Room 419, San Francisco, CA 94102.

2. Treatment regimen to be used (in order of preference) in uncomplicated GC infections and in asymptomatic contacts (see #3):

a. ceftriaxone* 125 mg IM (less expensive than spectinomycin, effective for all sites of GC infection, may not effectively treat incubating syphilis, safe in pregnancy)

or

b. spectinomycin 2 gm IM (more expensive than ceftriaxone, not adequate for pharyngeal GC)

Note: tetracycline 500 mg po qid or doxycycline 100 mg po bid for 7 days should be added to each of the above drugs to treat possibly co-existing chlamydia.

Ampicillin 3.5 gm, amoxicillin 3 gm, APPG 4.8 million units are not adequate for treatment.

3. The following persons should receive the above regimen at the time of visit and before the culture results are available:

a. all suspected cases of uncomplicated GC (i.e., urethral, endocervical, rectal, pharyngeal)

b. all contacts of persons diagnosed with GC

c. all contacts of prostitutes

4. Note: Asymptomatic women with GC infection identified through GC screening programs are exceptions to the above. Because culture results are known at the time these patients return for treatment, women with antibiotic-sensitive GC can be given standard treatment with ampicillin and probenecid. Obviously if a patient's culture is positive for PPNG she should be treated as outlined above.

5. Treatment regimen to be used in women with PID

a. in outpatients - ceftriaxone 250 mg IM

plus

doxycycline 100 mg bid for 14 days

b. in inpatients - ceftriaxone 1 gm IV daily and doxycycline 100 mg IV bid for a minimum of 4 days (preferred when GC and chlamydia are suspected as primary pathogens)

or

clindamycin 600 mg IV q 6 hours and gentimicin 2 mg/kg IV followed by 1.5 mg/kg q 8 for a minimum of 4 days (preferred when gram-negatives and anaerobes are suspected as primary pathogens)

6. Treatment regimen to be used in persons with GC ophthalmia

a. in adults - ceftriaxone 1 gm q d (IM or IV) for 5 days in the hospital

b. in children - ceftriaxone 25 mg - 50 mg/kg q d (IM or IV) for 7 days in the hospital

7. Health care providers and laboratory personnel should report immediately (within 24 hours) all cases of PPNG to the Health Department PPNG hotline 495-7432 or to City Clinic 864-8100.

8. All cases of PPNG must return 3-5 days after completing all antibiotics for a test of cure (TOC) culture and again in 1-2 months for reculture.

9. Health care providers should make every effort to ensure that all sexual partners of all GC cases are brought in quickly for evaluation, culture and treatment.

Clinicians unable to culture for GC or provide the above treatment can refer high risk patients or their sex partners to the San Francisco City Clinic, 356 - 7th St., for evaluation and treatment. In other PPNG problem areas it has been well documented that if these control measures are not implemented early, transmission will not be limited and resistant strains of gonorrhea will become thoroughly "seeded" in traditional gonorrhea case areas. These procedures, when implemented in a timely and consistent manner have been highly effective in controlling PPNG outbreaks in other areas. Please refer any questions or problems to: Division of STD Control, City Clinic 864-8100.

Prepared by Gail Bolan, M.D., and Sharon Thompson, Division of STD Control.

* The cross-reactivity of third-generation cephalosporins and penicillin (PCN) in PCN allergic patients is extremely

rare. Careful history should be taken from the patient as to the nature of their PCN allergy. Ceftriaxone should be withheld only from the small minority of patients in whom a history of anaphylactic or histaminic response to PCN is suspected.

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TABLE 1

PPNG ENDEMIC AREAS
(as of February 13, 1987)

California
- Los Angeles
- San Diego
- *Orange
- *Long Beach
- *Fresno

United States
- Florida (Miami)
- New York (New York City)
- *Pennsylvania (Philadelphia)
- *Michigan (Detroit)
- *Texas
- *Washington

Asia and Pacific Islands
- Philippines
- Korea
- Taiwan
- Thailand
- Hong Kong
- Singapore
- Australia

Africa
- Nigeria
- Uganda
- Ghana
- Ethiopia
- Rwanda

Europe
- Holland (Netherlands)
- England (Liverpool)
- Belgium

Latin America
- Mexico (*Tijuana)
- Panama
- El Salvador
- Costa Rica
- Columbia

Caribbean
- Jamaica

Note: Cities in parentheses are ones where substantial PPNG morbidity has been reported or linked to a major source of importation.

* Was not previously listed as an endemic area.

TABLE 2

Characteristics of Patients with Penicillinase-producing *Neisseria gonorrhoeae* (PPNG) Reported to San Francisco Department of Public Health, First Quarter, 1986 and 1987

	1st Quarter 1986 (N=9)	(%)	1st Quarter 1987 (N=18)	(%)	P
Male	4	(44)	9	(50)	NS
Female	5	(56)	9	(50)	NS
Mean Age	32		30*		NS
White	1	(11)	4	(22)	NS
Black	1	(11)	7	(39)	NS
Hispanic	2	(22)	4	(22)	NS
Filipino	4	(45)	3	(17)	0.07
Asian	1	(11)	0	(0)	NS
Risk factor for infection	7	(78)	6*	(38)	<0.01

* N=16 because information was unavailable for 2 patients

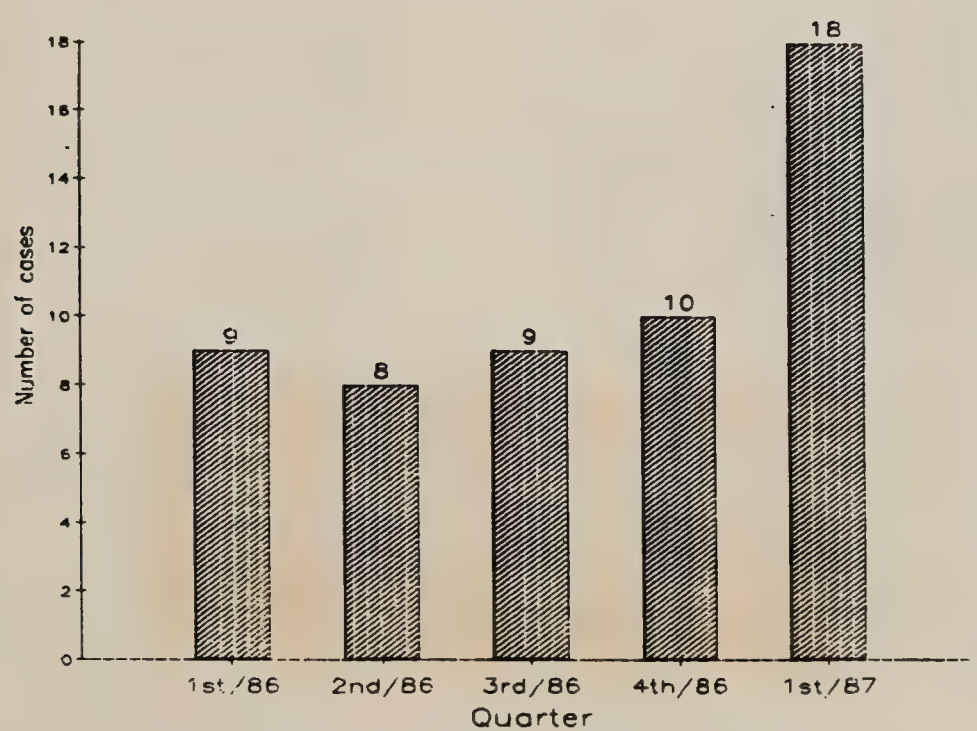

Figure 1. Penicillinase-producing *Neisseria gonorrhoeae* cases reported to the San Francisco Department of Public Health by quarter January 1986 - March 1987

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING March 28, 1987

DISEASE	CASES REPORTED WEEKS 9 THROUGH 12			TOTAL CASES REPORTED TO DATE		
	1985	1986	1987	1985	1986	1987
AIDS	63	75	115	166	220	319
AMEBIASIS	52	47	29	182	150	72
CAMPYLOBACTER	20	46	37	63	113	93
COCCIDIOIDOMYCOSIS	1			1		
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	70	53	56	170	125	173
GIARDIASIS	38	33	22	129	95	64
GONORRHEA	669	512	465	1843	1288	1399
HEPATITIS Type A	12	15	15	34	40	38
HEPATITIS Type B	17	21	19	61	39	48
HEPATITIS Non A-Non B	3	3	5	6	11	8
HEPATITIS Type Unspecified	2	1	-	11	4	1
LEPROSY	-	1	2	8	4	4
MALARIA	-	4	1	4	8	5
MEASLES		-	3		1	3
MENINGITIS, BACTERIAL	2	1	1	6	1	3
MENINGITIS, VIRAL	2	2	-	3	2	1
MUMPS	2	1		2	1	
PERTUSSIS			-			1
PSITTACOSIS	-			2		
RUBELLA			1			1
SALMONELLOSIS	10	26	18	37	64	56
SHIGELLOSIS	27	35	30	70	83	91
SYPHILIS, Total	124	72	65	290	200	146
SYPHILIS, Primary & Secondary	67	35	22	161	98	57
TUBERCULOSIS (all forms)	15	18	15	55	63	58
TYPHOID FEVER	-	1	-	1	1	1

Total deaths reported this period	638	670	2069	2133
Deaths from pneumonia this period	18	20	82	75

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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

Vol. 3, No. 6 June 1987

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Tuberculosis in Minorities*

In 1985, 22,201 cases of tuberculosis were reported to the Centers for Disease Control (CDC) for a rate of 9.3/100,000 population (1). Of the 22,170 cases of known race, 11,524 (52.0%) were in whites (including 3,032 white Hispanics) and 10,646 (48.0%) were in nonwhites (7,719 blacks, 2,530 Asians/Pacific Islanders and 397 American Indians/ Alaskan Natives). The rate for nonwhites was 5.2 times that for whites (29.6 as compared with 5.7/100,000 population). The ratios of age-specific rates for nonwhites to those for whites ranged from 4.3 for children <5 years of age to 9.0 for adults 25- to 44-years of age.

If nonwhite minorities had experienced the same age-specific morbidity rates as whites, there would have been 1,678 tuberculosis cases among patients for whom race and age were known, instead of the observed 10,640 cases. Thus 8,962 (84.2%) of the tuberculosis cases in nonwhites can be considered as excess cases. The 25- to 44-year age group had the largest number of excess cases (3,646).

An analysis by race and ethnicity of tuberculosis cases reported in 1985 shows that 38.3% (8,453) of 22,060 cases among patients with known race and ethnicity occurred in non-Hispanic whites, and 61.7% (13,607) occurred among all racial and ethnic minorities (blacks, Asians/Pacific Islanders, American Indians/Alaskan Natives and Hispanics). Figure 1 shows reported tuberculosis cases, by age, among non-Hispanic whites and all racial and ethnic minorities. Patients among minorities in general were much younger than non-Hispanic white patients. Among non-Hispanic whites, the 70- to 74-year age group had the greatest number of reported cases; while in minorities, the number of cases was highest in the 25- to 29-year age group. Members of minority groups accounted for 10,267 (72.8%) of the 14,097 patients who were <60 years of age and for whom age, race and ethnicity were known. Non-Hispanic whites accounted for 4,616 (58.1%) of the 7,948 patients ≥60 years of age.

Editorial Note: Over the past three decades, rates of tuberculosis in the United States have been consistently higher among racial minorities than among whites. Furthermore, while the number and rates of tuberculosis cases have decreased in the United States, the rate of decline has been much slower for nonwhites than for whites. As a result, the proportion of cases occurring among nonwhites increased from 23% in 1953 to 48% in 1985. In the United States in 1985, more than three-fifths of all reported cases occurred among racial and ethnic minorities.

Tuberculosis will probably disappear among non-Hispanic whites much sooner than it will among minorities. This is a result of the fact that, among non-Hispanic whites, tuberculosis has become primarily a disease of the elderly; whereas, among minorities, it is found mainly in the young. The older cohort of infected non-Hispanic whites will be replaced by a younger cohort with little or no infection. In addition, transmission to children by adults beyond child-raising age is unlikely. This is suggested by the much smaller proportion of childhood cases found among non-Hispanic whites.

In contrast, the number of tuberculosis cases among minorities peaks in the 25- to 34-year age group. These patients come from the much larger pool of persons who are infected with *Mycobacterium tuberculosis* and who may potentially develop active disease and infect their children. Some of these children may then progress to active tuberculosis, as indicated by the larger proportion of childhood cases

among minorities. Each of these childhood tuberculosis cases should be viewed as a sentinel health event reflecting ongoing transmission in the minority population (2-4).

Nevertheless, almost 40% of the cases among minorities occurred among persons <35 years of age and were, therefore, potentially preventable (5). Thus, it remains of particular importance to identify young adults, regardless of race and ethnicity, who are infected with the tubercle bacillus and are eligible for preventive chemotherapy. Preventive therapy is particularly important in protecting contacts of patients with tuberculosis from infection and disease (5).

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* Adapted from Morbidity and Mortality Weekly Report 1987 February 20;36:77-80.

San Francisco Comment

A total of 3,301 cases of tuberculosis were reported to the San Francisco Department of Public Health in the 10-year period between 1977 and 1986. The yearly total fluctuated from a high of 493 in 1980 - coinciding with the peak year of arrival of Southeast Asian refugees - to a low of 270 in 1984. In 1985 and 1986 the number of reported cases was 306 and 283, respectively. Since 1982 the average annual incidence has returned to the level of reporting prior to the refugee influx.

As observed nationwide, in San Francisco, cases in ethnic minorities (nonwhites and Hispanics) have consistently been higher than those in whites. Within the last 10 years cases in ethnic minorities constituted from 58 percent (1978) to 85 percent (1980) of all cases reported in each year. In 1986, 224 (79.2%) of cases occurred in ethnic minorities and 59 (20.8%) in non-Hispanic whites. For 1985 the percentages were 83.0 and 17.0 respectively.

Of the 59 cases reported in non-Hispanic whites in 1986, 42 (71.2%) were <64 years of age and 17 (28.8%) were 65 years or older. Of the 224 cases reported in ethnic minorities, 184 (82.1%) were <64 years of age and 40 (17.9%) were 65 years or older. Figure 2 shows the distribution by ethnic group for the 3 year period 1984-1986.

In San Francisco the distribution of tuberculosis is similar to the national pattern; however, there are several important differences. First, there is a greater proportion of cases in ethnic minorities over the entire age spectrum and not just in younger ages as reported nationally. While the number of cases in Southeast Asian refugees has decreased markedly from its peak in 1980, other Asians, notably Chinese and Filipino continue to have a high incidence overall which extends into the older age groups. This can in part be explained by the larger proportion of minorities in the city's population compared to the rest of the country. Second, there has been a gradual increase in the last several years of cases in whites in their younger years. While nationally in 1985 the median age for non-Hispanic whites was 62 years and for minorities was 41 years, the median age in 1986 for whites in San Francisco was 49 years and for minorities was 45 years. The most likely explanation is the increasing number of white patients with human immunodeficiency virus infection who develop active tuberculosis.

Another area of concern in San Francisco is the higher than national occurrence of tuberculosis in young children. From 1980 to 1986, 63 cases were report-

ed in children under the age of 5 years and 96 in the age group 5-14 years. Close to 80% of these occurred in ethnic minorities. Transmission of infection to the next generation continues to occur in the city. Based on health center data, infection rates (all ethnic groups combined) are 2.5% in children under 5 years of age and 17.5% in those 5 to 19 years of age.

San Francisco continues to have a high incidence of tuberculosis in ethnic minorities of all ages, with the occurrence of disease in whites beginning at an earlier age than seen nationally. Increased efforts at casefinding among hard-to-reach groups will have to be made. Tuberculin skin testing should be done on all children at least once prior to school entry. Preventive chemotherapy should be offered to persons under 35 years of age with significant tuberculin reactions and those who have other risk factors for reactivation. Tuberculosis remains a major health problem in the city.

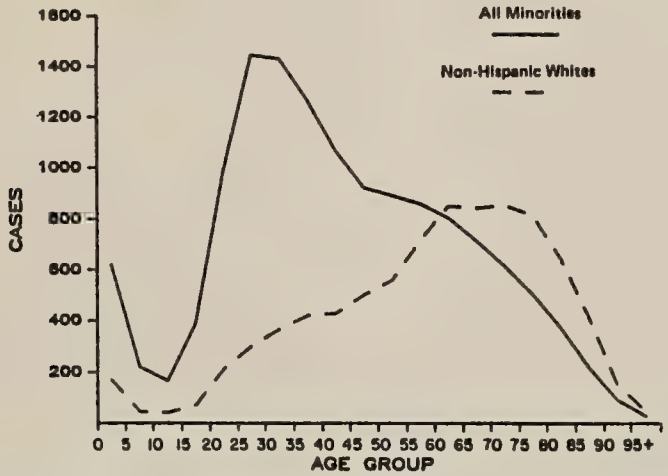

Figure 1. Frequency distribution of reported tuberculosis cases, by age, race and ethnicity - United States, 1985

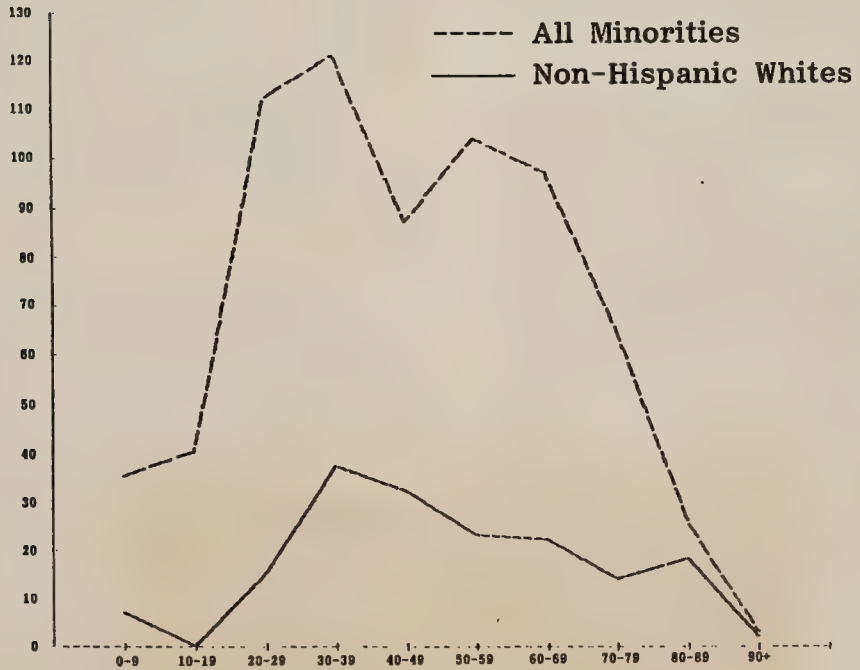

Figure 2. Reported Cases of Tuberculosis, Non-Hispanic White and all Minorities San Francisco, 1984 - 1986. Three year total: 859 cases

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING May 2, 1987

DISEASE	CASES REPORTED WEEKS 13 THROUGH 17			TOTAL CASES REPORTED TO DATE		
	1985	1986	1987	1985	1986	1987
AIDS	87	100	104	253	320	423
AMEBIASIS	107	63	41	289	213	113
CAMPYLOBACTER	41	56	46	104	169	139
COCCIDIOIDOMYCOSIS	1		1	2		1
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	43	113	107	213	238	280
GIARDIASIS	43	42	19	172	137	83
GONORRHEA	727	626	502	2570	1914	1901
HEPATITIS Type A	21	9	28	55	49	66
HEPATITIS Type B	19	22	17	80	61	65
HEPATITIS Non A-Non B	6	2	2	12	13	10
HEPATITIS Type Unspecified	-	1	1	11	5	2
LEPROSY	7	1	-	15	5	4
MALARIA	4	2	-	8	10	5
MEASLES		1	5		2	8
MENINGITIS, BACTERIAL	-	2	1	6	3	4
MENINGITIS, VIRAL	-	-	-	3	2	1
MUMPS	-	1	1	2	2	1
PERTUSSIS			1			2
PSITTACOSIS	-			2		
RUBELLA		3	-		3	1
SALMONELLOSIS	19	16	17	56	80	73
SHIGELLOSIS	36	45	40	106	128	131
SYPHILIS, Total	111	101	57	401	301	203
SYPHILIS, Primary & Secondary	68	43	23	229	141	80
TUBERCULOSIS (all forms)	27	33	41	82	96	99
TYPHOID FEVER	1	1	-	2	2	1

Total deaths reported this period	597	802	2666	2935
Deaths from pneumonia this period	27	33	109	108

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Update: Human Immunodeficiency Virus Infections in Health-Care Workers Exposed to Blood of Infected Patients*

Six persons who provided health care to patients with human immunodeficiency virus (HIV) infection and who denied other risk factors have previously been reported to have HIV infection. Four of these cases followed needle-stick exposures to blood from patients infected with HIV (1-4). The two additional cases involved persons who provided nursing care to persons with HIV infection. Although neither of these two persons sustained needle-stick injuries, both had extensive contact with blood or body fluids of the infected patient, and neither observed routinely recommended barrier precautions (5,6).

CDC has received reports of HIV infection in three additional health-care workers following non-needle-stick exposures to blood from infected patients. The exposures occurred during 1986 in three different geographic areas. Although these three cases represent rare events, they reemphasize the need for health-care workers to adhere rigorously to existing infection control recommendations for minimizing the risk of exposure to blood and body fluids of all patients (7-9).

Health-Care Worker 1: A female health-care worker assisting with an unsuccessful attempt to insert an arterial catheter in a patient suffering a cardiac arrest in an emergency room applied pressure to the insertion site to stop the bleeding. During the procedure, she may have had a small amount of blood on her index finger for about 20 minutes before washing her hands. Afterwards, she may also have assisted in cleaning the room but did not recall any other exposures to the patient's blood or body fluids. She had no open wounds, but her hands were chapped. Although she often wore gloves when anticipating exposure to blood, she was not wearing gloves during this incident.

The patient with the cardiac arrest died. A postmortem examination identified *Pneumocystis carinii* pneumonia, and a blood sample was positive for HIV antibody by enzyme immunoassay (EIA) and Western blot methods. Twenty days after the incident, the health-care worker became ill with fever, myalgia, extreme fatigue, sore throat, nausea, vomiting, diarrhea, a 14-pound weight loss, and generalized lymphadenopathy which her physician diagnosed as a viral syndrome. That illness lasted 3 weeks. She felt much better 9 weeks after the incident, and, when she was examined 6 months after the incident, all signs and symptoms had resolved. She had donated blood 8 months before the incident and was negative for HIV antibody by EIA. She donated again 16 weeks after the incident and was positive for HIV by EIA and Western blot (bands p24 and gp41). Serum samples obtained 20 and 23 weeks after the incident were also positive for HIV antibody. She stated that for over 8 years her only sexual partner had been her husband, who denied risk factors for HIV and was seronegative for HIV antibody. She denied ever receiving a blood transfusion, ever using intravenous drugs, or having any needle sticks or other significant exposures to blood or body fluids in the past 8 years. Her serologic test for syphilis was negative. Fifteen other employees who assisted in the care of the patient were seronegative at least 4 months after the exposure.

Health-Care Worker 2: A female phlebotomist was filling a 10 ml vacuum blood collection tube with blood from an outpatient with a suspected HIV infection when the top of the tube flew off and blood splattered around the room, on her face, and in her mouth. She was wearing gloves to protect her hands and was wearing eyeglasses so she did not think she got any blood in her eyes. She had facial acne but no open wounds. She washed the blood off immediately after the exposure. The outpatient's blood sample was positive for HIV antibody by EIA and Western blot, and a hepatitis B surface antigen test was negative. The phlebotomist's EIA was negative the day after the incident and again 8 weeks later. When she donated blood 9 months after the exposure, she was positive for HIV antibody by EIA and Western blot (bands p24 and gp41). She has had no symptoms. She denied having any sexual contact during the previous 2 years, ever using drugs intravenously, or ever receiving a transfusion. Two months after the incident, she scratched the back of her hand with a needle used to draw blood from an intravenous drug abuser of unknown HIV-antibody status. She did not bleed as a result of the scratch and has not had any needle-stick injuries in over 2 years. Her serologic tests for syphilis and hepatitis B were negative. A coworker who was splattered with blood on the face and in the mouth during the same incident remains seronegative 1 year after the incident.

Health-Care Worker 3: A female medical technologist was manipulating an apheresis machine (a device to separate blood components) to correct a problem that developed during an outpatient procedure when blood spilled, covering most of her hands and forearms. She was not wearing gloves. She does not recall having any open wounds on her hands or any mucous-membrane exposure. However, she had dermatitis on one ear and may have touched it. She washed the blood off herself and the machine several minutes after the spill. The patient undergoing the apheresis had denied risk factors for HIV infection. However, a blood sample from the patient was positive for HIV antibody by EIA and Western blot methods and negative for hepatitis B surface antigen the next day. The technologist's HIV-antibody tests were negative 5 days after the exposure and again 6 weeks later. Eight weeks after the exposure, she had an influenza-like illness with fever, myalgia, diarrhea, hives, and a pruritic red macular rash on her arms and legs. The illness resolved after a few weeks, and her physician thought the illness was probably a viral syndrome. Three months after the incident, she was positive for HIV antibody by EIA and Western blot methods (band p24 alone). Four months after the incident, a Western blot was positive (band p24 and gp41). She indicated that for more than 8 years her only sexual partner had been her husband, who denied risk factors for HIV infection and was seronegative for HIV antibody. She denied ever receiving a transfusion, ever using intravenous drugs, or having any needle-stick injuries in over 2 years. Her serologic tests for syphilis and hepatitis B were negative. She has an immunologic disorder which had been treated with corticosteroids in the past, but she had not taken any immunosuppressive medication for the past year. A coworker with a similar exposure during the same procedure remains seronegative after 3 months.

Reported by: Hospital Infections Program and AIDS Program, Center for Infectious Diseases, CDC.

Editorial Note: Three instances of health-care workers with HIV infections associated with skin or mucous-membrane exposure to blood from HIV-infected patients are reported above. Careful investigation of these three cases did not identify other risk factors for HIV infection, although unrecognized or forgotten needle-stick exposures to other infected patients cannot be totally excluded. The exact route of transmission in these three cases is not known. Health-Care Worker 1 had chapped hands, and the duration of contact with the blood of the patient experiencing a cardiac

arrest may have been as long as 20 minutes. Health-Care Worker 2 sustained contamination of oral mucous membranes. This individual also had acne but did not recall having open lesions. In addition, she had sustained a scratch from a needle used to draw blood from an intravenous drug abuser of unknown HIV-infection status. Health-Care Worker 3 had a history of dermatitis involving an ear. Health-Care Workers 1 and 3 were not wearing gloves when direct contact with blood occurred. Health-Care Worker 2 was wearing gloves, but blood contaminated her face and mouth.

Three ongoing prospective studies provide data on the magnitude of the risk of HIV infection incurred when health-care workers are exposed to blood of infected patients through needle-stick wounds or contamination of an open wound or mucous membrane. In a CDC cooperative surveillance project (10), a total of 1,097 health-care workers with parenteral or mucous-membrane exposure to the blood of patients with AIDS or other manifestations of HIV infection had been enrolled as of March 31, 1987. Needle-stick injuries and cuts with sharp objects accounted for 969 (89%) of the exposures to blood; 298 of these had paired serum samples tested for HIV antibody. One (0.3%) seroconverted (2), indicating that the risk of transmission during these exposures is very low. In addition, 70 health-care workers had open wounds exposed to blood, and 58 had mucous membrane exposed to blood. Postexposure serum samples from 82 of these 128 workers have been tested for antibody to HIV; none was seropositive.

In a study at the National Institutes of Health (11) through April 30, 1987, none of the 103 workers with percutaneous exposures and none of the 229 workers with mucous-membrane exposures to blood or body fluids of patients with AIDS was seropositive. At the University of California (12), none of 63 workers with open wounds or mucous membranes exposed to blood or body fluids of patients with AIDS was seropositive. Although the precise risk of transmission during exposures of open wounds or mucous membranes to contaminated blood cannot be defined, these studies indicate that it must be very low.

The three cases reported here suggest that exposure of skin or mucous membranes to contaminated blood may rarely result in transmission of HIV. The magnitude of the risk is not known since data on the frequency with which such exposures occur are not available. Skin and mucous-membrane exposures are thought to occur much more commonly than needle sticks, and the risk associated with skin or mucous-membrane exposures is likely to be far lower than that associated with needle-stick injuries. Nonetheless, the increasing prevalence of HIV infection increases the potential for such exposures, especially when routinely recommended precautions are not followed.

It is unlikely that routine serologic testing for HIV infection of all patients admitted to hospitals would have prevented these exposures since two of the three exposures occurred during a resuscitation effort in an emergency room shortly after the arrival of the patient. At the time of exposure, Health-Care Worker 2 suspected that the source patient was infected with HIV, but Health-Care Workers 1 and 3 did not. The hospital where Health-Care Worker 3 was exposed has a protocol for apheresis which normally involves HIV-antibody testing of donors; however, such testing was not done in advance of the procedure. Previous CDC recommendations have emphasized the value of HIV serologic testing for patient diagnosis and management and for prevention and control of HIV transmission (13) and have stated that some hospitals in certain geographic areas may deem it appropriate to initiate serologic testing of patients (7). Such testing may also provide an opportunity to reduce the risk of HIV infection to health-care workers, but it has not been established that knowledge of a patient's serologic status increases the compliance of health-care workers with recommended precautions.

These cases emphasize again the need to implement and strictly enforce previously published recommendations for minimizing the risk of exposure to blood and body fluids of all patients in order to prevent transmission of HIV infection in the workplace and during invasive procedures (7-9).

1. As previously recommended, routine precautions must be followed when there is a possibility of exposure to blood or other body fluids. The anticipated exposure may require gloves alone (e.g., when placing an intravascular catheter or handling items soiled with blood or equipment contaminated with blood or other body fluids). Procedures involving more extensive contact with blood or potentially infective body fluids (e.g., some dental or endoscopic procedures or postmortem examinations) may require gloves, gowns, masks, and eye-coverings. Hands and other contaminated skin surfaces should be washed thoroughly and immediately if accidentally contaminated with blood (7). These precautions deserve particular emphasis in emergency care settings in which the risk of blood exposure is increased and the infectious status of the patient is usually unknown (14).

2. Previous recommendations have emphasized managment of parenteral and mucous-membrane exposures of health-care workers¶. In addition, health-care workers who are involved in incidents that result in cutaneous exposures involving large amounts of blood or prolonged contact with blood - especially when the exposed skin is chapped, abraded, or afflicted with dermatitis - should follow these same recommendations. Moreover, serologic testing should be available to all health-care workers who are concerned that they may have been infected with HIV.

¶If a HCW [health-care worker] has a parenteral (e.g., needlestick or cut) or mucous membrane (e.g., splash to the eye or mouth) exposure to blood or other body fluids, the source patient should be assessed clinically and epidemiologically to determine the likelihood of HTLV-III/LAV [sic] infection. If the assessment suggests that infection may exist, the patient should be informed of the incident and requested to consent to serologic testing for evidence of HTLV-III/LAV [sic] infection. If the source patient has AIDS or other evidence of HTLV-III/LAV [sic] infection, declines testing, or has a positive test, the HCW should be evaluated clinically and serologically for evidence of HTLV-III/LAV [sic] infection as soon as possible after the exposure, and, if seronegative, retested after 6 weeks and on a periodic basis thereafter (e.g., 3, 6, and 12 months following exposure) to determine if transmission has occurred. During this follow-up period, especially the first 6-12 weeks, when most infected persons are expected to seroconvert, exposed HCWs should receive counseling about the risk of infection and follow U.S. Public Health Service (PHS) recommendations for preventing transmission of AIDS (15,16). If the source patient is seronegative and has no other evidence of HTLV-III/LAV [sic] infection, no further follow-up of the HCW is necessary. If the source patient cannot be identified, decisions regarding appropriate follow-up should be individualized based on the type of exposure and the likelihood that the source patient was infected (7).

* Reprinted from MMWR 1987 May 22; 36 (19):285-289.

San Francisco Comment:

The magnitude of risk to health care workers exposed to HIV has been a major issue since occupational transmission was first documented in 1983. Since that time, more than 3000 health care workers in the United States (including over 600 in San Francisco) have been enrolled in studies and tested for HIV infection (10-12,17-21). Cumulative data from these studies has shown that needlesticks or similar accidental parenteral exposures to HIV rarely result in virus transmission (<1% risk in those exposed). No cases

of transmission after cutaneous contact with infected blood or other body fluids have been identified in these studies.

The three cases reported here represent the first known occupational transmission following mucous membrane and/or cutaneous exposure with infected blood. Although these cases illustrate the importance of using infection control measures to prevent cutaneous contact with body fluids, they do not suggest a high degree of risk from this type of exposure. Accidental cutaneous contact with blood is a very common event. At San Francisco General Hospital (SFGH), where health care workers have had daily contact with AIDS patients in the last 6 years, more than 400 accidental contacts with HIV-infected fluids have been reported. No health care providers at SFGH have contracted HIV infection from these exposures.

Current infection control guidelines developed by CDC and the University of California, San Francisco Task Force on AIDS emphasize the importance of using standard precautions to prevent direct contact with body fluids (7,22). These guidelines (frequent handwashing, the use of gloves and other protective clothing when contact with infected body fluids is likely, and needlestick precautions) are recommended for all patients regardless of whether or not HIV infection has been diagnosed. They should be employed in outpatient and emergency settings as well as in inpatient units. Since this approach does not require prior knowledge of HIV infection or other infections before implementation, screening of patients for HIV infection is not necessary. This approach not only reduces exposure to HIV but also reduces exposure to a variety of other pathogens (including hepatitis B virus, cytomegalovirus, *Staphylococcus aureus*, and enteric organisms) commonly encountered in the health care environment.

Submitted by JL Gerberding, M.D., Fellow, Clinical Pharmacy and Infectious Disease, Project Director, AIDS Health Care Worker Study, San Francisco General Hospital and the University of California, San Francisco.

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CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING May 30, 1987

DISEASE	CASES REPORTED WEEKS 18 THROUGH 21			TOTAL CASES REPORTED TO DATE		
	1985	1986	1987	1985	1986	1987
AIDS	56	89	114	309	409	537
AMEBIASIS	87	50	35	376	263	148
CAMPYLOBACTER	56	51	32	160	220	171
COCCIDIOIDOMYCOSIS	1		-	3		1
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	110	93	47	323	331	327
GIARDIASIS	43	38	17	215	175	100
GONORRHEA	511	415	502	3081	2329	2403
HEPATITIS Type A	11	11	18	66	60	84
HEPATITIS Type B	12	11	16	92	72	81
HEPATITIS Non A-Non B	2	5	-	14	18	10
HEPATITIS Type Unspecified	1	3	-	12	8	2
LEPROSY	-	1	2	15	6	6
MALARIA	-	2	1	8	12	6
MEASLES		-	-		2	8
MENINGITIS, BACTERIAL	1	2	1	7	5	5
MENINGITIS, VIRAL	1	2	-	4	4	1
MUMPS	4	-	-	6	2	1
PERTUSSIS		3	-		3	2
PSITTACOSIS	-			2		
RUBELLA	1	-	-	1	3	1
SALMONELLOSIS	11	15	7	67	95	80
SHIGELLOSIS	41	33	33	147	161	164
SYPHILIS, Total	49	69	56	450	370	259
SYPHILIS, Primary & Secondary	22	32	20	251	173	100
TUBERCULOSIS (all forms)	25	28	30	107	124	129
TYPHOID FEVER	1	-	-	3	2	1

Total deaths reported this period	537	615	3203	3550
Deaths from pneumonia this period	13	25	122	133

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Revision of the CDC Surveillance Case Definition for Acquired Immunodeficiency Syndrome*

INTRODUCTION

The following revised case definition for surveillance of acquired immunodeficiency syndrome (AIDS) was developed by CDC in collaboration with public health and clinical specialists. The Council of State and Territorial Epidemiologists (CSTE) has officially recommended adoption of the revised definition for national reporting of AIDS. The objectives of the revision are a) to track more effectively the severe disabling morbidity associated with infection with human immunodeficiency virus (HIV) (including HIV-1 and HIV-2); b) to simplify reporting of AIDS cases; c) to increase the sensitivity and specificity of the definition through greater diagnostic application of laboratory evidence for HIV infection; and d) to be consistent with current diagnostic practice, which in some cases includes presumptive, i.e., without confirmatory laboratory evidence, diagnosis of AIDS-indicative diseases (e.g., Pneumocystis carinii pneumonia, Kaposi's sarcoma).

The definition is organized into three sections that depend on the status of laboratory evidence of HIV infection (e.g., HIV antibody) (Figure 1). The major proposed changes apply to patients with laboratory evidence for HIV infection: a) inclusion of HIV encephalopathy, HIV wasting syndrome, and a broader range of specific AIDS-indicative diseases (Section II.A); b) inclusion of AIDS patients whose indicator diseases are diagnosed presumptively (Section II.B); and c) elimination of exclusions due to other causes of immunodeficiency (Section I.A).

Application of the definition for children differs from that for adults in two ways. First, multiple or recurrent serious bacterial infections and lymphoid interstitial pneumonia/pulmonary lymphoid hyperplasia are accepted as indicative of AIDS among children but not among adults. Second, for children less than 15 months of age whose mothers are thought to have had HIV infection during the child's perinatal period, the laboratory criteria for HIV infection are more stringent, since the presence of HIV antibody in the child is, by itself, insufficient evidence for HIV infection because of the persistence of passively acquired maternal antibodies less than 15 months after birth.

The new definition is effective immediately. State and local health departments are requested to apply the new definition henceforth to patients reported to them. The initiation of the actual reporting of cases that meet the new definition is targeted for September 1, 1987, when modified computer software and report forms should be in place to accommodate the changes. CSTE has recommended retrospective application of the revised definition to patients already reported to health departments. The new definition follows:

1987 REVISION OF CASE DEFINITION FOR AIDS FOR SURVEILLANCE PURPOSES

For national reporting, a case of AIDS is defined as an illness characterized by one or more of the following "indicator" diseases, depending on the status of laboratory evidence of HIV infection, as shown below.

I. Without Laboratory Evidence Regarding HIV Infection

If laboratory tests for HIV were not performed or gave inconclusive results (See Appendix I) and the patient had no other cause of immunodeficiency listed in Section I.A below, then any disease listed in Section I.B indicates AIDS if it was diagnosed by a definitive method (See Appendix II).

A. Causes of immunodeficiency that disqualify diseases as indicators of AIDS in the absence of laboratory evidence for HIV infection

1. high-dose or long-term systemic corticosteroid therapy or other immunosuppressive/cytotoxic therapy less than or equal to 3 months before the onset of the indicator disease
2. any of the following diseases diagnosed less than or equal to 3 months after diagnosis of the indicator disease: Hodgkin's disease, non-Hodgkin's lymphoma (other than primary brain lymphoma), lymphocytic leukemia, multiple myeloma, any other cancer of lymphoreticular or histiocytic tissue, or angioimmunoblastic lymphadenopathy
3. a genetic (congenital) immunodeficiency syndrome or an acquired immunodeficiency syndrome atypical of HIV infection, such as one involving hypogammaglobulinemia

B. Indicator diseases diagnosed definitively (See Appendix II)

1. candidiasis of the esophagus, trachea, bronchi, or lungs
2. cryptococcosis, extrapulmonary
3. cryptosporidiosis with diarrhea persisting greater than 1 month
4. cytomegalovirus disease of an organ other than liver, spleen, or lymph nodes in a patient greater than 1 month of age
5. herpes simplex virus infection causing a mucocutaneous ulcer that persists longer than 1 month; or bronchitis, pneumonitis, or esophagitis for any duration affecting a patient greater than 1 month of age
6. Kaposi's sarcoma affecting a patient less than 60 years of age
7. lymphoma of the brain (primary) affecting a patient less than 60 years of age
8. lymphoid interstitial pneumonia and/or pulmonary lymphoid hyperplasia (LIP/PLH complex) affecting a child less than 13 years of age
9. Mycobacterium avium complex or M. kansasii disease, disseminated (at a site other than or in addition to lungs, skin, or cervical or hilar lymph nodes)
10. Pneumocystis carinii pneumonia
11. progressive multifocal leukoencephalopathy
12. toxoplasmosis of the brain affecting a patient greater than 1 month of age

II. With Laboratory Evidence for HIV Infection

Regardless of the presence of other causes of immunodeficiency (I.A), in the presence of laboratory evidence for HIV infection (See Appendix I), any disease listed above (I.B) or below (II.A or II.B) indicates a diagnosis of AIDS.

A. Indicator diseases diagnosed definitively (See Appendix II)

1. bacterial infections, multiple or recurrent (any combination of at least two within a 2-year period), of the following types affecting a child less than 13 years of age: septicemia, pneumonia, meningitis, bone or joint infection, or abscess of an internal organ or body cavity (excluding otitis media or superficial skin or mucosal abscesses), caused by Haemophilus, Streptococcus (including pneumococcus), or other pyogenic bacteria
2. coccidioidomycosis, disseminated (at a site other than or in addition to lungs or cervical or hilar lymph nodes)
3. HIV encephalopathy (also called "HIV dementia", "AIDS dementia", or "subacute encephalitis due to HIV") (See Appendix II for description)
4. histoplasmosis, disseminated (at a site other than or in addition to lungs or cervical or hilar lymph nodes)
5. isosporiasis with diarrhea persisting greater than 1 month
6. Kaposi's sarcoma at any age
7. lymphoma of the brain (primary) at any age
8. other non-Hodgkin's lymphoma of B-cell or unknown immunologic phenotype and the following histologic types:
   a. small noncleaved lymphoma (either Burkitt or non-Burkitt type) (See Appendix IV for equivalent terms and numeric codes used in the International Classification of Diseases, Ninth Revision, Clinical Modification)
   b. immunoblastic sarcoma (equivalent to any of the following, although not necessarily all in combination: immunoblastic lymphoma, large cell lymphoma, diffuse histiocytic lymphoma, diffuse undifferentiated lymphoma, or high-grade lymphoma) (See Appendix IV for equivalent terms and numeric codes used in the International Classification of Diseases, Ninth Revision, Clinical Modification)

   Note: Lymphomas are not included here if they are of T-cell immunologic phenotype or their histologic type is not described or is described as "lymphocytic," "lymphoblastic," "small cleaved," or "plasmacytoid lymphocytic"
9. any mycobacterial disease caused by mycobacteria other than M. tuberculosis, disseminated (at a site other than or in addition to lungs, skin, or cervical or hilar lymph nodes)
10. disease caused by M. tuberculosis, extrapulmonary (involving at least one site outside the lungs, regardless of whether there is concurrent pulmonary involvement)
11. Salmonella (nontyphoid) septicemia, recurrent
12. HIV wasting syndrome (emaciation, "slim disease") (See Appendix II for description)

B. Indicator diseases diagnosed presumptively (by a method other than those in Appendix II)

Note: Given the seriousness of diseases indicative of AIDS, it is generally important to diagnose them definitively, especially when therapy that would be used may have serious side effects or when definitive diagnosis is needed for eligibility for antiretroviral therapy. Nonetheless, in some situations, a patient's condition will not permit the performance of definitive tests. In other situations, accepted clinical practice may be to diagnose presumptively based on the presence of characteristic clinical and laboratory abnormalities. Guidelines for presumptive diagnoses are suggested in Appendix III.

1. candidiasis of the esophagus
2. cytomegalovirus retinitis with loss of vision
3. Kaposi's sarcoma
4. lymphoid interstitial pneumonia and/or pulmonary lymphoid hyperplasia (LIP/PLH complex) affecting a child less than 13 years of age
5. mycobacterial disease (acid-fast bacilli with species not identified by culture), disseminated (involving at least one site other than or in addition to lungs, skin, or cervical or hilar lymph nodes)
6. *Pneumocystis carinii* pneumonia
7. toxoplasmosis of the brain affecting a patient greater than 1 month of age

III. With Laboratory Evidence Against HIV Infection

With laboratory test results negative for HIV infection (See Appendix I), a diagnosis of AIDS for surveillance purposes is ruled out *unless*:

A. all the other causes of immunodeficiency listed above in Section I.A are excluded; **AND**

B. the patient has had either:
   1. *Pneumocystis carinii* pneumonia diagnosed by a definitive method (See Appendix II); **OR**
   2. a. any of the other diseases indicative of AIDS listed above in Section I.B diagnosed by a definitive method (See Appendix II); **AND**
      b. a T-helper/inducer (CD4) lymphocyte count less than $400/mm^3$

COMMENTARY

The surveillance of severe disease associated with HIV infection remains an essential, though not the only, indicator of the course of the HIV epidemic. The number of AIDS cases and the relative distribution of cases by demographic, geographic, and behavioral risk variables are the oldest indices of the epidemic, which began in 1981 and for which data are available retrospectively back to 1978. The original surveillance case definition, based on then-available knowledge, provided useful epidemiologic data on severe HIV disease (1). To ensure a reasonable predictive value for underlying immunodeficiency caused by what was then an unknown agent, the indicators of AIDS in the old case definition were restricted to particular opportunistic diseases diagnosed by reliable methods in patients without specific known causes of

immunodeficiency. After HIV was discovered to be the cause of AIDS, however, and highly sensitive and specific HIV-antibody tests became available, the spectrum of manifestations of HIV infection became better defined, and classification systems for HIV infection were developed (2-5). It became apparent that some progressive, seriously disabling, and even fatal conditions (e.g., encephalopathy, wasting syndrome) affecting a substantial number of HIV-infected patients were not subject to epidemiologic surveillance, as they were not included in the AIDS case definition. For reporting purposes, the revision adds to the definition most of those severe non-infectious, non-cancerous HIV-associated conditions that are categorized in the CDC clinical classification systems for HIV infection among adults and children (4,5).

Another limitation of the old definition was that AIDS-indicative diseases are diagnosed presumptively (i.e., without confirmation by methods required by the old definition) in 10%-15% of patients diagnosed with such diseases; thus, an appreciable proportion of AIDS cases were missed for reporting purposes (6,7). This proportion may be increasing, which would compromise the old case definition's usefulness as a tool for monitoring trends. The revised case definition permits the reporting of these clinically diagnosed cases as long as there is laboratory evidence of HIV infection.

The effectiveness of the revision will depend on how extensively HIV-antibody tests are used. Approximately one third of AIDS patients in the United States have been from New York City and San Francisco, where, since 1985, less than 7% have been reported with HIV-antibody test results, compared with greater than 60% in other areas. The impact of the revision on the reported numbers of AIDS cases will also depend on the proportion of AIDS patients in whom indicator diseases are diagnosed presumptively rather than definitively. The use of presumptive diagnostic criteria varies geographically, being more common in certain rural areas and in urban areas with many indigent AIDS patients.

To avoid confusion about what should be reported to health departments, the term "AIDS" should refer only to conditions meeting the surveillance definition. This definition is intended only to provide consistent statistical data for public health purposes. Clinicians will not rely on this definition alone to diagnose serious disease caused by HIV infection in individual patients because there may be additional information that would lead to a more accurate diagnosis. For example, patients who are not reportable under the definition, because they have either a negative HIV-antibody test or, in the presence of HIV antibody, an opportunistic disease not listed in the definition as an indicator of AIDS, nonetheless may be diagnosed as having serious HIV disease on consideration of other clinical or laboratory characteristics of HIV infection or a history of exposure to HIV.

Conversely, the AIDS surveillance definition may rarely misclassify other patients as having serious HIV disease if they have no HIV-antibody test but have an AIDS-indicative disease with a background incidence unrelated to HIV infection, such as cryptococcal meningitis.

The diagnostic criteria accepted by the AIDS surveillance case definition should not be interpreted as the standard of

good medical practice. Presumptive diagnoses are accepted in the definition because not to count them would be to ignore substantial morbidity resulting from HIV infection. Likewise, the definition accepts a reactive screening test for HIV antibody without confirmation by a supplemental test because a repeatedly reactive screening test result, in combination with an indicator disease, is highly indicative of true HIV disease. For national surveillance purposes, the tiny proportion of possibly false-positive screening tests in persons with AIDS-indicative diseases is of little consequence. For the individual patient, however, a correct diagnosis is critically important. The use of supplemental tests is, therefore, strongly endorsed. An increase in the diagnostic use of HIV-antibody tests could improve both the quality of medical care and the function of the new case definition, as well as assist in providing counselling to prevent transmission of HIV.

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San Francisco Comment:

The majority of changes in the AIDS case definition apply only to patients with laboratory evidence of HIV infection. Although greater application of the laboratory test for HIV will further increase the sensitivity and specificity of the AIDS case definition, currently fewer than 10% of AIDS cases reported in San Francisco include a laboratory result. The Department of Public Health strongly encourages physicians and other individuals responsible for reporting to report the results of HIV antibody tests for patients for whom the evidence of HIV infection is required by the revised case definition of AIDS. This recommendation is consistent with current state law (AB 403, Agnos) which permits disclosure of test results associated with an AIDS case being reported to the State Department of Health Services and the Centers for Disease Control (and their reporting agents: city

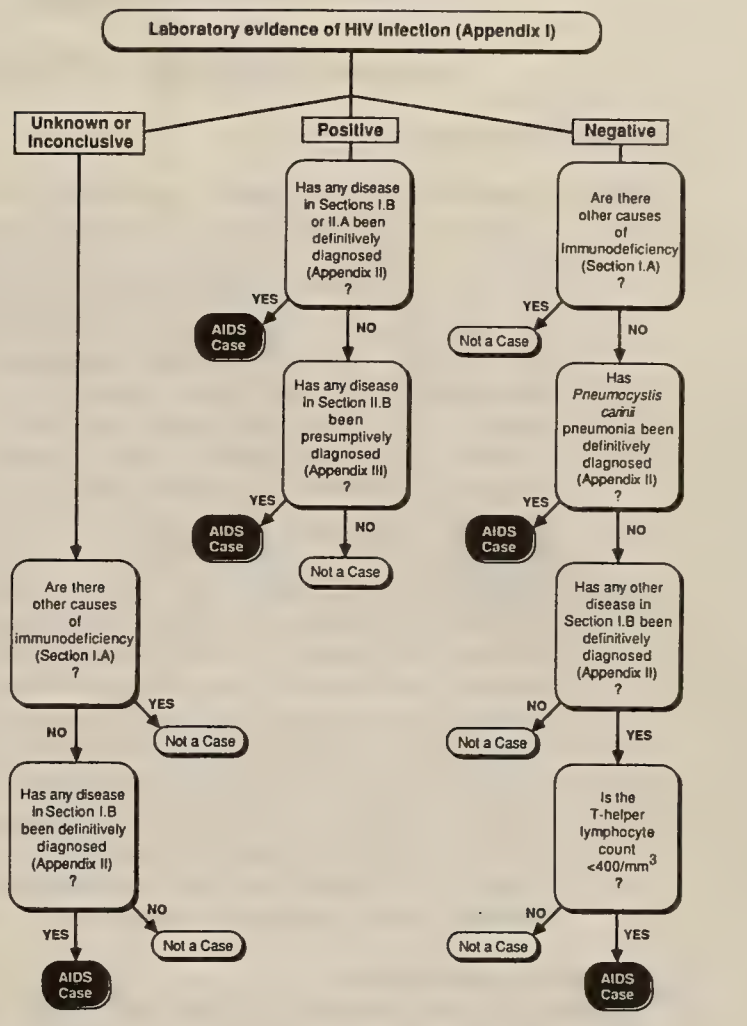
and county health departments). The following is the applicable clause in AB 403, Agnos (chapter 1.11, Section 199.21):
"(i) Nothing in this section shall be construed to impose liability or criminal sanction for disclosure of a blood test to detect antibodies to the probable causative agent of AIDS in accordance with any reporting requirement for a diagnosed case of AIDS by the state department or the Centers for Disease Control under the United States Public Health Services."

Antibody test results should be reported to the health department only when an individual meets the criteria for the new case definition for AIDS, and should be released only by the physician or other individuals responsible for reporting cases to the health department. Antibody test results may not be released if a person does not meet the criteria for the case definition of AIDS.

It is critical that reporting be as complete as possible since formulae for the distribution of federal and state AIDS funds to localities are partially determined by the number of reported AIDS cases. More importantly, complete reporting will enable more exact assessment of the impact of the AIDS epidemic and further elucidate current and future health care needs of San Francisco's residents.

For further information, contact the Surveillance and Investigations Branch, AIDS Office, San Francisco Department of Public Health (415) 621-5979.

FIGURE I. Flow diagram for revised CDC case definition of AIDS, September 1, 1987



APPENDIX I

Laboratory Evidence For or Against HIV Infection

1. **For Infection:**

When a patient has disease consistent with AIDS:

a. a serum specimen from a patient greater than or equal to 15 months of age, or from a child less than 15 months of age whose mother is not thought to have had HIV infection during the child's perinatal period, that is repeatedly reactive for HIV antibody by a screening test (e.g., enzyme-linked immunosorbent assay [ELISA]), as long as subsequent HIV-antibody tests (e.g., Western blot, immunofluorescence assay), if done, are positive; **OR**

b. a serum specimen from a child less than 15 months of age, whose mother is thought to have had HIV infection during the child's perinatal period, that is repeatedly reactive for HIV antibody by a screening test (e.g., ELISA), plus increased serum immunoglobulin levels and at least one of the following abnormal immunologic test results: reduced absolute lymphocyte count, depressed CD4 (T-helper) lymphocyte count, or decreased CD4/CD8 (helper/suppressor) ratio, as long as subsequent antibody tests (e.g., Western blot, immunofluorescence assay), if done, are positive; **OR**

c. a positive test for HIV serum antigen; **OR**

d. a positive HIV culture confirmed by both reverse transcriptase detection and a specific HIV-antigen test or in situ hybridization using a nucleic acid probe; **OR**

e. a positive result on any other highly specific test for HIV (e.g., nucleic acid probe of peripheral blood lymphocytes).

2. **Against Infection:**
A nonreactive screening test for serum antibody to HIV (e.g., ELISA) without a reactive or positive result on any other test for HIV infection (e.g., antibody, antigen, culture), if done.

3. **Inconclusive (Neither For nor Against Infection):**

a. a repeatedly reactive screening test for serum antibody to HIV (e.g., ELISA) followed by a negative or inconclusive supplemental test (e.g., Western blot, immunofluorescence assay) without a positive HIV culture or serum antigen test, if done; **OR**

b. a serum specimen from a child less than 15 months of age, whose mother is thought to have had HIV infection during the child's perinatal period, that is repeatedly reactive for HIV antibody by a screening test, even if positive by a supplemental test, without additional evidence for immunodeficiency as described above (in 1.b) and without a positive HIV culture or serum antigen test, if done.

APPENDIX II

Definitive Diagnostic Methods for Diseases Indicative of AIDS

Diseases	Definitive Diagnostic Methods
cryptosporidiosis cytomegalovirus isosporiasis Kaposi's sarcoma lymphoma lymphoid pneumonia or hyperplasia *Pneumocystis carinii* pneumonia progressive multifocal leukoencephalopathy toxoplasmosis	microscopy (histology or cytology).
candidiasis	gross inspection by endoscopy or autopsy or by microscopy (histology or cytology) on a specimen obtained directly from the tissues affected(including scrapings from the mucosal surface), not from a culture.
coccidioidomycosis cryptococcosis herpes simplex virus histoplasmosis	microscopy (histology or cytology), culture, or detection of antigen in a specimen obtained directly from the tissues affected or a fluid from those tissues.
tuberculosis other mycobacteriosis salmonellosis other bacterial infection	culture.
HIV encephalopathy* (dementia)	clinical findings of disabling cognitive and/or motor dysfunction interfering with occupation or activities of daily living, or loss of behavioral developmental milestones affecting a child, progressing over weeks to months, in the absence of a concurrent illness or condition other than HIV infection that could explain the findings. Methods to rule out such concurrent illnesses and conditions must include cerebrospinal fluid examination and either brain imaging (computed tomography or magnetic resonance) or autopsy.
HIV wasting syndrome*	findings of profound involuntary weight loss more than 10% of baseline body weight plus either chronic diarrhea (at least two stools per day for greater than or equal to 30 days) or chronic weakness and documented fever (for greater than or equal to 30 days, intermittent or constant) in the absence of a concurrent illness or condition other than HIV infection that could explain the findings (e.g., cancer, tuberculosis, cryptosporidiosis, or other specific enteritis).

* For HIV encephalopathy and HIV wasting syndrome, the methods of diagnosis described here are not truly definitive, but are sufficiently rigorous for surveillance purposes.

APPENDIX III

Suggested Guidelines for Presumptive Diagnosis of Diseases Indicative of AIDS

Diseases	Presumptive Diagnostic Criteria
candidiasis of esophagus	a. recent onset of retrosternal pain on swallowing; **AND** b. oral candidiasis diagnosed by the gross appearance of white patches or plaques on an erythematous base or by the microscopic appearance of fungal mycelial filaments in an uncultured specimen scraped from the oral mucosa.
cytomegalovirus retinitis	a characteristic appearance on serial ophthalmoscopic examinations (e.g., discrete patches of retinal whitening with distinct borders, spreading in a centrifugal manner, following blood vessels, progressing over several months, frequently associated with retinal vasculitis, hemorrhage, and necrosis). Resolution of active disease leaves retinal scarring and atrophy with retinal pigment epithelial mottling.
mycobacteriosis	microscopy of a specimen from stool or normally sterile body fluids or tissue from a site other than lungs, skin, or cervical or hilar lymph nodes, showing acid-fast bacilli of a species not identified by culture.
Kaposi's sarcoma	a characteristic gross appearance of an erythematous or violaceous plaque-like lesion on skin or mucous membrane. (**Note:** Presumptive diagnosis of Kaposi's sarcoma should not be made by clinicians who have seen few cases of it.)
lymphoid interstitial pneumonia	bilateral reticulonodular interstitial pulmonary infiltrates present on chest X-ray for greater than or equal to 2 months with no pathogen identified and no response to antibiotic treatment.
Pneumocystis carinii pneumonia	a. a history of dyspnea on exertion or nonproductive cough of recent onset (within the past 3 months); **AND** b. chest X-ray evidence of diffuse bilateral interstitial infiltrates or gallium scan evidence of diffuse bilateral pulmonary disease; **AND** c. arterial blood gas analysis showing an arterial pO_2 of less than 70 mmHg or a low respiratory diffusing capacity (less than 80% of predicted values) or an increase in the alveolar-arterial oxygen tension gradient; **AND** d. no evidence of a bacterial pneumonia.
toxoplasmosis of the brain	a. recent onset of a focal neurologic abnormality consistent with intracranial disease or a reduced level of consciousness; **AND** b. brain imaging evidence of a lesion having a mass effect (on computed tomography or nuclear magnetic resonance) or the radiographic appearance of which is enhanced by injection of contrast medium; **AND** c. serum antibody to toxoplasmosis or successful response to therapy for toxoplasmosis.

APPENDIX IV

Equivalent Terms and International Classification of Disease (ICD) Codes for AIDS-Indicative Lymphomas

The following terms and codes describe lymphomas indicative of AIDS in patients with antibody evidence for HIV infection (Section II.A.8 of the AIDS case definition). Many of these terms are obsolete or equivalent to one another.

ICD-9-CM (1978)

Codes	Terms
200.0	**Reticulosarcoma** lymphoma (malignant): histiocytic (diffuse) reticulum cell sarcoma: pleomorphic cell type or not otherwise specified
200.2	**Burkitt's tumor or lymphoma** malignant lymphoma, Burkitt's type

ICD-O (Oncologic Histologic Types 1976)

Codes	Terms
9600/3	**Malignant lymphoma, undifferentiated cell type** non-Burkitt's or not otherwise specified
9601/3	**Malignant lymphoma, stem cell type** stem cell lymphoma
9612/3	**Malignant lymphoma, immunoblastic type** immunoblastic sarcoma, immunoblastic lymphoma, or immunoblastic lymphosarcoma
9632/3	**Malignant lymphoma, centroblastic type** diffuse or not otherwise specified, or germinoblastic sarcoma: diffuse or not otherwise specified
9633/3	**Malignant lymphoma, follicular center cell, non-cleaved** diffuse or not otherwise specified
9640/3	**Reticulosarcoma, not otherwise specified** malignant lymphoma, histiocytic: diffuse or not otherwise specified reticulum cell sarcoma, not otherwise specified malignant lymphoma, reticulum cell type
9641/3	**Reticulosarcoma, pleomorphic cell type** malignant lymphoma, histiocytic, pleomorphic cell type reticulum cell sarcoma, pleomorphic cell type
9750/3	**Burkitt's lymphoma or Burkitt's tumor** malignant lymphoma, undifferentiated, Burkitt's type malignant lymphoma, lymphoblastic, Burkitt's type

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING June 27, 1987

DISEASE	CASES REPORTED WEEKS 22 THROUGH 25			TOTAL CASES REPORTED TO DATE		
	1985	1986	1987	1985	1986	1987
AIDS	51	98	90	360	507	627
AMEBIASIS	63	31	29	439	294	177
CAMPYLOBACTER	56	61	30	216	281	201
COCCIDIOIDOMYCOSIS	–		–	3		1
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	45	118	67	368	449	394
GIARDIASIS	44	34	23	259	209	123
GONORRHEA	577	429	480	3658	2758	2883
HEPATITIS Type A	16	9	9	82	69	93
HEPATITIS Type B	13	15	13	105	87	94
HEPATITIS Non A-Non B	–	4	–	14	22	10
HEPATITIS Type Unspecified	–	1	1	12	9	3
LEPROSY	13	–	1	28	6	7
MALARIA	3	–	2	11	12	8
MEASLES		–	2		2	10
MENINGITIS, BACTERIAL	–	2	2	7	7	7
MENINGITIS, VIRAL	1	2	–	5	6	1
MUMPS	1	2	1	7	4	2
PERTUSSIS		1	1		4	3
PSITTACOSIS	2		1	4		1
RUBELLA	2	1	3	3	4	4
SALMONELLOSIS	13	24	20	80	119	100
SHIGELLOSIS	30	41	32	177	202	196
SYPHILIS, Total	58	56	72	508	426	331
SYPHILIS, Primary & Secondary	29	26	16	280	199	116
TUBERCULOSIS (all forms)	19	16	30	126	140	159
TYPHOID FEVER	–	2	–	3	4	1

Total deaths reported this period	647	652	3850	4202
Deaths from pneumonia this period	24	13	146	146

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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

Vol. 3, No. 9 September 1987

SF
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Prevention and Control of Influenza*

Vaccination of high-risk persons each year before the influenza season is the single most important measure for reducing the impact of influenza. The target groups for immunization include:

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A. Groups at greatest medical risk of influenza-related complications.

1) Adults and children with chronic disorders of the cardiovascular or pulmonary systems requiring regular medical followup or hospitalization during the preceding year.
2) Residents of nursing homes and other chronic care facilities housing patients of any age with chronic medical conditions.

B. Groups at moderate medical risk of influenza-related complications. After the above two target groups have been vaccinated, programs should make vaccine readily available to persons at moderately increased risk of serious illness compared with the general population. These include:

1) Otherwise healthy individuals 55 years of age and older.
2) Adults and children who have required regular medical follow-up or hospitalization during the preceding year because of chronic metabolic diseases (including diabetes mellitus), renal dysfunction, anemia, or immunosuppression.
3) Children and teenagers (six months through 18 years of age) who are receiving long-term aspirin therapy and, therefore, may be at risk of developing Reye syndrome following influenza infection.

C. Groups potentially capable of nosocomial transmission of influenza to high-risk persons. During many winters, nosocomial outbreaks of influenza are reported. Although not proven, it is reasonable to believe that individuals caring for high-risk persons can transmit influenza infection to them while they are themselves incubating infection, undergoing subclinical infection, or working despite the existence of symptoms. The potential for transmitting influenza to high-risk persons should be reduced by vaccinating:

1) Physicians, nurses, and other personnel having extensive contact with high-risk patients (e.g., primary-care and certain speciality clinicians and staff of chronic-care facilities and intensive-care units, particularly neonatal intensive-care units.
2)**Providers of care to high-risk persons in the home setting (e.g., visiting nurses, volunteer workers) as well as all household members, whether or not they provide care.

VACCINATION OF OTHER GROUPS

General Population: Physicians should administer vaccine to any persons wishing to reduce their chances of acquiring influenza infection. Persons providing essential community services (e.g., employees of fire and police departments) are not considered at increased occupational risk of serious influenza illness, but they may be considered for vaccination programs designed to minimize disruption of essential services during severe epidemics.

Pregnant Women: Pregnancy itself has not been demonstrated as a risk factor for severe influenza infection, except during the largest pandemics of 1918-19 and 1957-58. However, pregnant women with medical conditions that increase their risk of complications from influenza should be vaccinated since influenza vaccine is considered safe for pregnant women without a specific severe egg allergy. To minimize any concern over the theoretical possibility of teratogenicity, vaccine should be given after the first trimester. However, it may be undesirable to delay vaccinating a pregnant woman who has a high-risk condition and will still be in the first trimester of pregnancy when influenza activity usually begins.

Immunodeficient Persons: Because influenza vaccine contains only non-infectious viruses it cannot cause influenza. However, the ability of immunodeficient persons to respond by developing antibodies is unknown and probably varies from individual to individual.

PERSONS WHO SHOULD NOT BE VACCINATED

Inactivated influenza vaccine should not be given to persons who have severe allergies to eggs. Normally, persons with acute febrile illnesses should not be vaccinated until their temporary symptoms have abated.

San Francisco Comment:

The kickoff for the annual flu campaign will be held at the Aquatic Park Branch of the San Francisco Senior Centers on October 29. Immunizations will be available at the five Department of Public Health District Health Centers on the mornings of November 3, 5, 10 & 12 and at the Richmond District Neighborhood Clinic on November 4. Final clinics will be at 101 Grove and Health Center #5 on Saturday, November 14. The vaccine is made available to clinics and physicians from the Bureau of Communicable Disease Control, Department of Public Health.

The 1987-88 vaccine contains three strains: A/Taiwan/1/86(H1N1), A/Leningrad/360/86(H3N2), and B/Ann Arbor/1/86. One of the three strains is expected to be prevalent in the San Francisco area beginning in late November or early December. Determination of outbreaks of influenza depends on rapid notification by providers. Any unusual incidence of respiratory infection should be reported immediately by telephone to the Bureau of Communicable Disease Control at 558-2926. Arrangements will be made for the collection of appropriate specimens, which will facilitate efforts to document the presence of influenza in the area.

*Adapted from MMWR 1987 June 26;36(24)373-387.

**This category of recipients has been added to the recommendations this year.

Decrease in Primary and Secondary Syphilis: San Francisco

From January 1 through July 31, 1987 there were 3,641 cases of primary and secondary syphilis reported in California, a 51% increase over the 2,412 cases reported in the first six months of 1986(1). Eight counties observed significant increases: Contra Costa, Fresno, Long Beach, Los Angeles, Sacramento, San Bernardino, San Diego and Tulare. In contrast, San Francisco, Orange, San Joaquin and Santa Clara observed decreases. One hundred and seven cases of primary and secondary syphilis were reported in San Francisco for the period between January 1 and July 31, 1987, a 36% decrease from the 168 cases reported during the same time period in 1986(2). This observed decrease is predominantly among male cases. In the past, much of the reported syphilis in San Francisco was thought to be among homosexual men. Consistent with observed decreases in rectal gonorrhea (3), the continual decrease in male syphilis cases is presumably a result of "safer sex" practices among homosexual men.

1. State of California, Infectious Disease Branch. California Morbidity 1987 August 14;31.
2. Sexually Transmitted Disease Control Unit, San Francisco Department of Public Health, September 1987.
3. San Francisco Department of Public Health. Rectal Gonorrhea in San Francisco, October 1984-September 1986. San Francisco Epidemiologic Bulletin. 1986 December;2(12).

Hib Vaccine Failures*

The California State Department of Health Services, in conjunction with the Centers for Disease Control, is requesting data on Haemophilus influenzae b (Hib) vaccine failures. The data will be used to determine (1) how soon after immunization the vaccine becomes protective, (2) how long protection lasts, and (3) what characterizes children who do not respond to the vaccine. **Report suspected or confirmed Hib vaccine failures immediately to Giuliano Nieri at the Bureau of Communicable Disease Control, 558-2926.** When reporting a case, demographic, medical and vaccine history data should be available. Isolates of the organism and/or paired acute and convalescent sera also will be solicited.

*Adapted from Los Angeles County Department of Health Services. Public Health Letter, 1987 August;9(7).

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING August 1, 1987

DISEASE	CASES REPORTED WEEKS 26 THROUGH 30			TOTAL CASES REPORTED TO DATE		
	1985	1986	1987	1985	1986	1987
AIDS	72	105	126	432	612	753
AMEBIASIS	67	62	49	506	356	226
CAMPYLOBACTER	60	55	31	276	336	232
COCCIDIOIDOMYCOSIS	4	1	1	7	1	2
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	61	78	66	429	527	460
GIARDIASIS	50	31	22	309	240	145
GONORRHEA	602	596	480	4260	3354	3363
HEPATITIS Type A	23	12	11	105	81	104
HEPATITIS Type B	20	14	10	125	101	104
HEPATITIS Non A-Non B	3	4	2	17	26	12
HEPATITIS Type Unspecified	–	2	–	12	11	3
LEPROSY	1	2	1	29	8	8
MALARIA	8	1	–	19	13	8
MEASLES		–	2		2	12
MENINGITIS, BACTERIAL	1	3	2	8	10	9
MENINGITIS, VIRAL	1	1	–	6	7	1
MUMPS	–	–	4	7	4	6
PERTUSSIS		–	–		4	3
PSITTACOSIS	–	1	–	4	1	1
RUBELLA	1	–	–	4	4	4
SALMONELLOSIS	22	18	22	102	137	122
SHIGELLOSIS	37	43	36	214	245	232
SYPHILIS, Total	76	69	97	584	495	428
SYPHILIS, Primary & Secondary	35	34	31	315	233	147
TUBERCULOSIS (all forms)	33	23	27	159	163	186
TYPHOID FEVER	–	–	–	3	4	1
Total deaths reported this period		732	731		4582	4933
Deaths from pneumonia this period		34	23		180	169

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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

Vol. 3, No. 10 October 1987

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Update: Acquired Immunodeficiency Syndrome - San Francisco

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As of September 30, 1987, 3,785 cases of AIDS had been reported to the San Francisco Department of Public Health. One thousand six hundred thirty (43.1%) of these cases were diagnosed in 1985 or earlier, and 2,155 (56.9%) were diagnosed in 1986 or later.

Of the 1,630 cases diagnosed in 1985 or earlier, 1,591 (97.6%) involved homosexual or bisexual men, 12 (0.7%) heterosexual intravenous drug users, 12 (0.7%) transfusion recipients, and 15 (0.9%) patients in other transmission categories. Similarly, of the 2,155 cases diagnosed in 1986 or later 2,066 (95.8%) involved homosexual or bisexual men, 36 (1.7%) intravenous drug users, 23 (1.1%) transfusion recipients, and 30 (1.4%) patients in other transmission categories. Compared to patients in all other transmission categories, the proportion of cases among heterosexual intravenous drug users was significantly larger in patients diagnosed in 1986 and 1987 than in those diagnosed earlier ($p=.02$, Table 1). There were no other significant differences in the other transmission categories.

Among cases diagnosed in 1985 or earlier, 87.5% involved whites and 12.5% non-whites while among cases diagnosed in 1986 or later 83.1% where white and 16.9% were non-white ($p=.0002$). This increase in the proportion of non-white cases was most pronounced in blacks [84/1630 (5.2%) $\leq$1985 vs. 150/2155 (7.0%) $\geq$1986, $p=.027$] and Latinos [100/1630 (6.1%) $\leq$1985 vs. 169/2155 (7.8%) $\geq$1986, $p=.05$]. There were similar but not statistically significant increases in the numbers of cases among Asians and Pacific Islanders and Native Americans (Table 2).

The increase in the proportion of cases among non-whites was most pronounced among homosexual and bisexual men with 11.4% of homosexual and bisexual cases diagnosed in 1985 or earlier and 15.4% of cases diagnosed in 1986 or later involving non-whites ($p=.0005$). Among individual racial and ethnic groups, the increase was largest among blacks ($p=.029$, Table 3).

Among cases diagnosed in 1985 or earlier, the sexual orientation of 97.8% was homosexual or bisexual and of 2.2% heterosexual while among cases diagnosed in 1986 or later 96.2% were homosexual or bisexual and 3.8% heterosexual. The increased proportion of heterosexuals as compared to homosexuals and bisexuals ($p < .02$) and the decreased proportion of homosexuals as compared to bisexuals and heterosexuals ($p < .01$) were both statistically significant (Table 4).

There were no significant changes in the sex, age group, or census tract of residence of patients diagnosed since 1985.

Reported by the Surveillance and Investigations Branch, AIDS Office.

Editorial Note: Previous reports have described the disproportionate representation of blacks and Latinos among heterosexual intravenous drug

users, heterosexual contacts, and children born to parents at risk for AIDS both nationally (1,2) and in San Francisco (3-5). An additional report from San Francisco has suggested that non-white homosexual and bisexual men are seroconverting to human immunodeficiency virus (HIV) at higher rates than white homosexual and bisexual men (6).

Nonetheless, AIDS in San Francisco has been and remains a disease predominantly of white homosexual and bisexual men. However, there have been small but significant increases in the proportion of AIDS cases among heterosexual intravenous drug users, blacks, Latinos, and heterosexuals diagnosed in 1985 and earlier as compared to those diagnosed in 1986 and later. The increase in the proportion of cases in non-whites was most pronounced among homosexual and bisexual men. There have also been small but significant commensurate decreases in the proportion of cases in whites and homosexuals in these same time periods. These data suggest that the epidemiology of AIDS in San Francisco is gradually changing with the epidemic among heterosexual intravenous drug users increasing more rapidly than the epidemic in homosexual and bisexual men and the epidemic in non-white homosexual and bisexual men increasing more rapidly than the epidemic in white homosexual and bisexual men.

References

1. Bakeman R, Lumb JR, Jackson RE, Smith DW. AIDS risk-group profiles in whites and members of minority groups [Letter]. N Engl J Med 1986;315:191-2.
2. Centers for Disease Control. Acquired immunodeficiency syndrome (AIDS) among blacks and Hispanics - United States. MMWR 1986;35(42): 655-8,663-6.
3. San Francisco Department of Public Health. AIDS among intravenous drug users - San Francisco. San Francisco Epidemiologic Bulletin 1986 May;2(5):1-3.
4. San Francisco Department of Public Health. AIDS in racial and ethnic minorities - San Francisco. San Francisco Epidemiologic Bulletin 1986 September;2(9):1-2.
5. Rutherford GW, Lemp GF, Barnhart JL, Evans PE, Bolan GA, Werdegar D. AIDS and the potential for HIV transmission in minority populations in San Francisco. 115th Annual American Public Health Association Meeting, New Orleans, LA, October 21, 1987.
6. Samuel M, Winkelstein W Jr. Prevalence of human immunodeficiency virus infection in ethnic minority homosexual/bisexual men [Letter] JAMA 1987;257:1091.

Table 1. AIDS CASES BY TRANSMISSION CATEGORY AND YEAR OF DIAGNOSIS, SAN FRANCISCO*

	YEAR OF DIAGNOSIS ≤1985 N (%)**	YEAR OF DIAGNOSIS ≥1986 N (%)**	P***
HOMOSEXUAL OR BISEXUAL MALE	1380 (84.7)	1814 (84.2)	N.S.
INTRAVENOUS (IV) DRUG USER	12 (0.7)	36 (1.7)	0.02
HOMOSEXUAL/BISEXUAL MALE AND IV DRUG USER	211 (12.9)	252 (11.7)	N.S.
HEMOPHILIA/COAGULATION DISORDER	2 (0.1)	3 (0.1)	N.S.
TRANSFUSION, BLOOD/COMPONENTS	12 (0.7)	23 (1.1)	N.S.
HETEROSEXUAL CASES	6 (0.4)	12 (0.6)	N.S.
PARENTS WITH/AT RISK FOR AIDS	3 (0.2)	3 (0.1)	N.S.
OTHER	4 (0.2)	12 (0.6)	N.S.

* data reported through September 30, 1987
** percentage of column total
*** X^2 test compared to all others

Table 2. AIDS CASES BY RACE AND YEAR OF DIAGNOSIS, SAN FRANCISCO*

	YEAR OF DIAGNOSIS ≤1985 N (%)**	YEAR OF DIAGNOSIS ≥1986 N (%)**	P***
WHITE, NOT LATINO	1427 (87.5)	1790 (83.1)	0.0002
BLACK, NOT LATINO	84 (5.2)	150 (7.0)	0.027
LATINO	100 (6.1)	169 (7.8)	0.05
ASIAN/PACIFIC ISLANDER	19 (1.2)	42 (1.9)	0.078
NATIVE AMERICAN	0 (0)	4 (0.2)	N.S.

* data reported through September 30, 1987
** percentage of column total
*** X^2 test compared to all others

Table 3. AIDS CASES BY RACE AND YEAR OF DIAGNOSIS, HOMOSEXUAL AND BISEXUAL MEN, SAN FRANCISCO*

	YEAR OF DIAGNOSIS ≤1985 N (%)**	YEAR OF DIAGNOSIS ≥1986 N (%)**	P***
WHITE	1410 (88.6)	1748 (84.6)	.0005
BLACK	68 (4.3)	123 (6.0)	.029
LATINO	96 (6.0)	154 (7.5)	.105
ASIAN/PACIFIC ISLANDER	17 (1.1)	37 (1.8)	.098
NATIVE AMERICAN	0 (0)	4 (0.2)	N.S.

* data reported through September 30, 1987
** percentage of column total
*** X^2 test compared to all others

Table 4. AIDS CASES BY SEXUAL ORIENTATION AND YEAR OF DIAGNOSIS, SAN FRANCISCO*

	YEAR OF DIAGNOSIS ≤1985 N (%)**	YEAR OF DIAGNOSIS ≥1986 N (%)**	P***
HOMOSEXUAL	1503 (92.4)	1922 (89.5)	<.01
BISEXUAL	88 (5.4)	144 (6.7)	N.S.
HETEROSEXUAL	35 (2.2)	81 (3.8)	<.02

* Data reported through September 30, 1987. Excludes 12 children.
** percentage of column total
*** X^2 test compared to all others

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING August 29, 1987

DISEASE	CASES REPORTED WEEKS 31 THROUGH 34			TOTAL CASES REPORTED TO DATE		
	1985	1986	1987	1985	1986	1987
AIDS	66	94	116	498	706	869
AMEBIASIS	38	49	45	544	405	271
CAMPYLOBACTER	49	102	33	325	438	265
COCCIDIOIDOMYCOSIS	-	1	-	7	2	2
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	90	63	52	519	590	512
GIARDIASIS	61	33	24	370	273	169
GONORRHEA	622	476	626	4882	3830	3989
HEPATITIS Type A	14	8	14	119	89	118
HEPATITIS Type B	15	10	21	140	111	125
HEPATITIS Non A-Non B	1	2	3	18	28	14
HEPATITIS Type Unspecified	2	1	-	14	12	3
LEPROSY	22	-	-	51	8	8
MALARIA	-	3	1	19	16	9
MEASLES		-	-		2	12
MENINGITIS, BACTERIAL	2	1	2	10	11	10
MENINGITIS, VIRAL	-	1	-	6	8	1
MUMPS	-	-	-	7	4	6
PERTUSSIS	2	-	-	2	4	3
PSITTACOSIS	-	-	1	4	1	1
RUBELLA	-	1	-	4	5	4
SALMONELLOSIS	25	23	16	127	160	138
SHIGELLOSIS	36	31	41	250	276	273
SYPHILIS, Total	63	77	55	647	572	483
SYPHILIS, Primary & Secondary	30	35	19	345	261	166
TUBERCULOSIS (all forms)	24	16	24	183	179	210
TYPHOID FEVER	2	1	1	5	5	2
Total deaths reported this period		622	596		5204	5529
Deaths from pneumonia this period		14	7		194	176

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Vol. 3, No. 11 November 1987

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Tuberculosis in San Francisco

Tuberculosis incidence in San Francisco is high relative to cities of similar size in the United States. In 1985, among the 59 cities with more than 250,000 population, San Francisco had the third highest tuberculosis case rate after Miami and Atlanta (1).

Over the last 20 years, the United States case rate fell from 23.1 per 100,000 population in 1967 to 9.4 in 1986, a decrease of 59.3% (2). In California, the case rate fell from 21.0 to 12.7, a decrease of 39.5% and during the same period in San Francisco the rate dropped from 51.5 to 38.5, a decrease of 25.2% (Figure 1). A sharp increase in 1980 coincided with the peak influx of Southeast Asian refugees (3).

In 1967 the case rate in San Francisco was more than double that observed nationwide; by 1986 the rate was four times higher. In the three year period 1984-86 a total of 858 new cases of tuberculosis were reported to the Tuberculosis Division of the San Francisco Department of Public Health: 270 in 1984, 305 in 1985, and 283 in 1986.

Tuberculosis in Children

In San Francisco a total of 26 cases of tuberculosis in children under 5 years of age and 29 cases in children 5-14 years of age were recorded during 1984-86. Of the 26 youngest patients, 6 (23.1%) were foreign born. Cases were evenly divided between males and females. Of the 29 cases in the 5-14 year old age group, 18 (62.1%) were foreign born. In both age groups combined, the preponderance of cases (23, 41.8%) were Asians, followed by blacks (12, 21.8%), Hispanics (10, 18.2%) and non-Hispanic whites (10, 18.2%).

Follow-up investigation was conducted on 29 of the cases reported in children less than 15 years old during 1985 and 1986. Fourteen (48.3%) of the 29 cases were identified through routine screening, including mandatory screening prior to admission to day care or school. Routine contact investigation identified 8 (27.6%) more cases. Screening in conjunction with medical examinations identified 5 (17.2%) additional patients; the remaining 2 (6.9%) cases entered as refugees already under treatment.

Tuberculosis and AIDS

As the AIDS epidemic progresses in San Francisco, more patients with both AIDS and tuberculosis are being recognized. From 1982 through June 1987 there have been 60 cases with both diagnoses. Consistent with the steady rise in cases of AIDS, patients with both conditions have increased every year. Of those diagnosed with tuberculosis in 1982, 3 patients (1.0%) also had AIDS; 4 (1.3%) in 1983, 15 (5.6%) in 1984, 16 (5.2%) in 1985, 11 (3.9%) in 1986, and 11 (7.3%) in the first six months of 1987. For all years the majority (36, 60.0%) were diagnosed in the same year; tuberculosis was diagnosed before AIDS in 11 cases (45.8%) and after AIDS in 13 (54.2%). Non-Hispanic whites constituted the largest group with 38 cases (63.3%), followed by Hispanics (9, 15.0%), blacks (8, 13.3%), Asians (4, 6.7%) and other non-whites (1, 1.7%). All patients were males. Forty-eight were homosexual/bisexual, 9 were homosexual/bisexual intravenous drug users and 3 were heterosexual intravenous drug users.

Editorial Note:

Mandatory screening upon entry to school is an important means of detection among children in San Francisco. Currently, the Department of Public Health is conducting a survey for completeness of testing (see page 55).

In 1987 the Centers for Disease Control (CDC) included extrapulmonary tuberculosis with a positive human immunodeficiency virus (HIV) test as an indicator disease for AIDS (4).

The increasing number of coexisting HIV-TB infections suggests that patients with known HIV infection or individuals at risk should be screened for tuberculosis and placed on INH prophylaxis, regardless of age. Given that these individuals may seek health care at any site in the city, all providers should either offer or refer for tuberculin skin testing.

For information about tuberculosis prevention or case management, call the Tuberculosis Division of the Department of Public Health at 558-4436.

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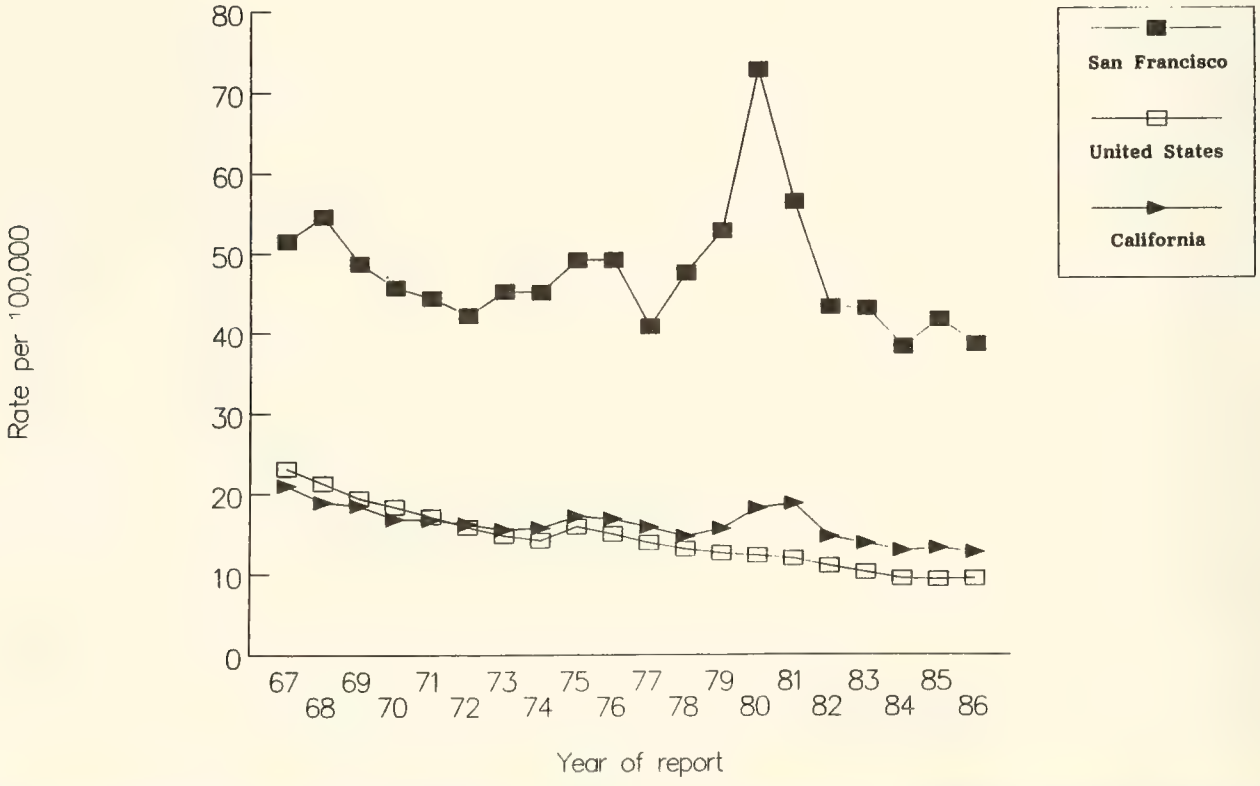

Figure 1. Comparison of tuberculosis rates: San Francisco, United States and California

Treatment for Tuberculosis

The treatment of tuberculosis disease and tuberculosis infection has been well summarized in a joint statement of the American Thoracic Society and the CDC (1). Generally a 6-month regimen consisting of isoniazid, rifampin and pyrazinamide given for 2 months followed by isoniazid and rifampin for 4 months constitutes effective treatment in patients with fully susceptible organisms who comply with the treatment regimen (Table 1). Preventive treatment with isoniazid given for 6 months is now considered adequate. Isoniazid should be continued for 12 months for persons with abnormal x-rays consistent with old inactive tuberculosis, and for immunocompromised persons.

Reference

1. Treatment of tuberculosis and tuberculosis infection in adults and children. Am Rev Respir Dis 1986;134:355-363.

Table 1. RECOMMENDED DRUGS FOR THE INITIAL TREATMENT OF TUBERCULOSIS IN CHILDREN AND ADULTS

Drug	Dosage Forms	Daily Dose*		Maximal Daily Dose in Children and Adults
		Children	Adults	
Isoniazid	Tablets: 100 mg, 300 mg†§ Syrup: 50 mg/5 ml Vials: 1 g	10 to 20 mg/kg PO or IM	5 mg/kg PO or IM	300 mg
Rifampin	Capsules: 150 mg, 300 mg†§ Syrup: formulated from capsules, 10 mg/ml	10 to 20 mg/kg PO	10 mg/kg PO	600 mg
Pyrazinamide	Tablets: 500 mg§	15 to 30 mg/kg PO	15 to 30 mg/kg PO	2 g
Streptomycin	Vials: 1 g, 4 g	20 to 40 mg/kg IM	15 mg/kg¶ IM	1 g¶
Ethambutol	Tablets: 100 mg, 400 mg	15 to 25 mg/kg PO	15 to 25 mg/kg PO	2.5 g

Definition of abbreviations: PO = perorally; IM = intramuscularly.

* Doses based on weight should be adjusted as weight changes.

† Izoniazid and rifampin are available as a combination capsule containing 150 mg of izoniazid and 300 mg of rifampin.

§ A combination of isoniazid, rifampin, and pyrazinamide in a single capsule is being introduced.

¶ In persons older than 60 yr of age the daily dose of streptomycin should be limited to 10 mg/kg with a maximal dose of 750 mg.

Tuberculosis Screening for Public School Students: San Francisco

Every pupil entering public school in San Francisco for the first time must have had a tuberculin skin test within the previous year. While compliance is high, the outcome of the skin test is often not recorded. The San Francisco Department of Public Health, in cooperation with the Unified School District, is reviewing skin test status to determine prevalence of tuberculosis infection in this population. To make this survey as complete as possible, we request that all providers record skin test outcome (positive or negative result) on the School Health Form required for children entering kindergarten or first grade.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING October 3, 1987

DISEASE	CASES REPORTED WEEKS 35 THROUGH 39			TOTAL CASES REPORTED TO DATE		
	1985	1986	1987	1985	1986	1987
AIDS	70	105	133	568	811	1002
AMEBIASIS	61	42	35	605	447	306
CAMPYLOBACTER	47	75	47	372	513	312
COCCIDIOIDOMYCOSIS	1	1	-	8	3	2
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	92	68	78	611	658	590
GIARDIASIS	36	31	37	406	304	206
GONORRHEA	696	607	694	5578	4437	4683
HEPATITIS Type A	14	6	24	133	95	142
HEPATITIS Type B	12	7	11	152	118	136
HEPATITIS Non A-Non B	4	2	1	22	30	15
HEPATITIS Type Unspecified	1	-	1	15	12	4
LEPROSY	1	-	-	52	8	8
MALARIA	1	3	3	20	19	12
MEASLES	1	-	-	1	2	12
MENINGITIS, BACTERIAL	1	-	3	11	11	13
MENINGITIS, VIRAL	5	1	-	11	9	1
MUMPS	1	2	-	8	6	6
PERTUSSIS	-	-	-	2	4	3
PSITTACOSIS	-	-	-	4	1	1
RUBELLA	1	-	-	5	5	4
SALMONELLOSIS	32	25	23	159	185	161
SHIGELLOSIS	36	49	38	286	325	311
SYPHILIS, Total	77	77	55	724	649	538
SYPHILIS, Primary & Secondary	42	38	21	387	299	187
TUBERCULOSIS (all forms)	30	34	30	213	213	240
TYPHOID FEVER	1	-	-	6	5	2
Total deaths reported this period		753	779		5957	6308
Deaths from pneumonia this period		17	19		211	195

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Hepatitis B in San Francisco, 1983-1987

One thousand sixty-nine cases of hepatitis B were reported in San Francisco from January of 1983 through December of 1987.

Information concerning race or ethnicity is available only for 1986 and 1987 (Figure 1). For these years, 184 cases (57.0%) were white (non-Hispanic), 51 cases (15.8%) were black (non-Hispanic), 50 cases (15.5%) were Hispanic, 13 cases (4.0%) were Asian or Pacific Islander, and 5 cases (1.5%) were Native American; race could not be determined for 19 cases (6.2%).

Of the 1,069 cases since 1983, 6 were found to be transfusion-associated. Other sources of infection were ascertained only in 1986 and 1987; of the 323 cases reported for these two years, 97 (30.0%) were sexually transmitted, 92 (28.5%) were associated with intravenous drug abuse, and 1 (0.03%) was transfusion-associated. No source could be determined for the remaining 133 cases (41.2%).

In 1983, 81% (232/286) of reported cases were male, while only 74% (125/170) of cases in 1987 were male, a significant decrease (Pearson's Chi-square = 7.36, $p < 0.01$). Logistic regression revealed that this change was due to a significant decrease in the rate of hepatitis B among males, while the rate among females remained the same (Figure 3).

Editorial note: United States Census information for 1980 shows that Asians and Pacific Islanders accounted for 22% of the San Francisco population (Figure 2), though this group accounts for only 4% of the reported morbidity from hepatitis B. This under-representation of Asians and Pacific Islanders may be due to a greater incidence of perinatally acquired infections that are usually asymptomatic and therefore undiagnosed but confer immunity to further disease.

There has been a significant decrease in the number of hepatitis B cases reported in San Francisco since 1983, primarily among males. This reduction is probably due to changes in sexual behavior in the homosexual community: though the proportion of cases due to sexual transmission before 1986 is unknown, rates among other sexually transmitted diseases prevalent in the homosexual community--including amebiasis (unpublished data) and rectal gonorrhea (1)--are decreasing as well.

Reference:

1. Kohn, RP, Bolan G, Echenberg DF, et al. Rectal gonorrhea in San Francisco, October 1984-September 1986 [poster] 115th Annual American Public Health Association Meeting, New Orleans, LA, October 23, 1987.

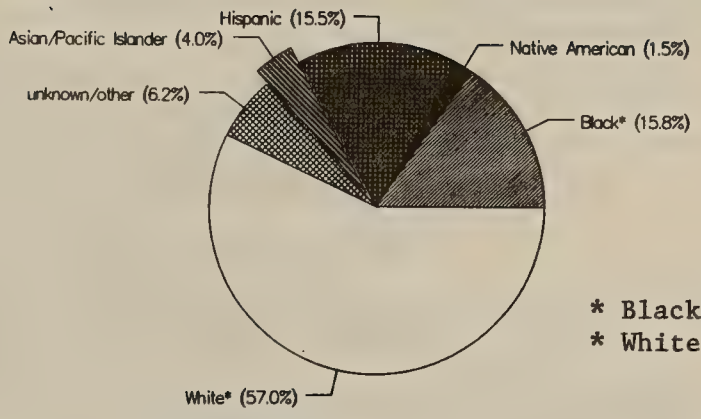
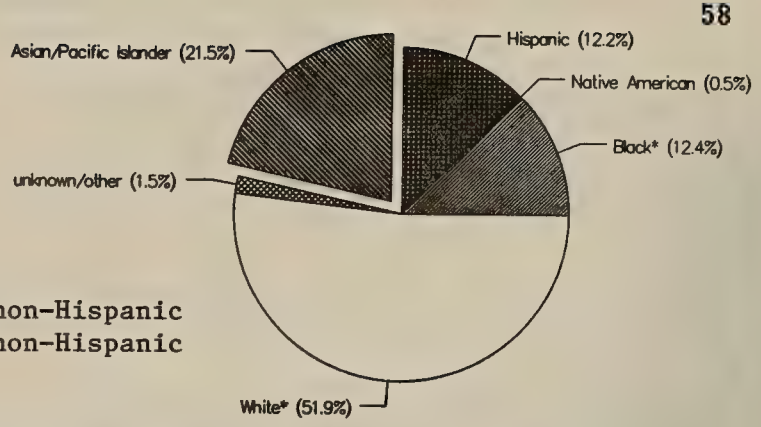


Figure 1. Racial distribution of hepatitis B morbidity, San Francisco: 1983-1987.



* Black, non-Hispanic
* White, non-Hispanic

Figure 2. Racial distribution, City of San Francisco. (Source: 1980 U.S. Census

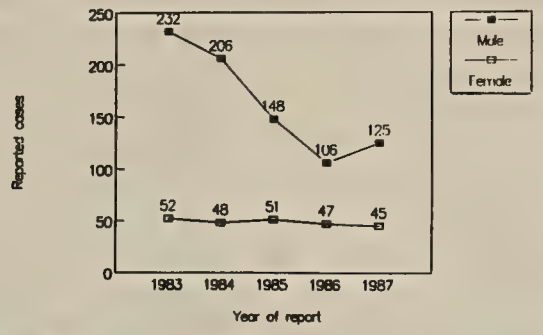


Figure 3. Reported cases of hepatitis B by sex, San Francisco: 1983-1987.

Hepatitis B in Homosexual Men - San Francisco

Immunization against hepatitis B has been available since 1982. Given the current high cost of the vaccine (more than $100), only groups at particular risk are recommended as candidates: homosexual and bisexual men, intravenous drug users, certain health care workers, and infants born to surface antigen positive mothers. In a one-month period in 1987, five cases of acute hepatitis B in young homosexual men were reported to the San Francisco Department of Public Health. Three of the four men interviewed indicated they were not aware of a vaccine against hepatitis B; none of the four considered themselves at risk despite their self identification as members of a known risk group.

Editorial note: Over the last several years in San Francisco, a great deal of emphasis has been placed on reduction of risk of human immunodeficiency virus (HIV) infection. Information and awareness about hepatitis B risk reduction through vaccination has been much less prominent. Furthermore, the availability of hepatitis B vaccine has had no apparent impact on hepatitis B nationwide (1). This may be due in part to allocation of vaccine to health care personnel, individuals in mental institutions, and other individuals outside of the major risk groups.

Behaviors which constitute risk for HIV infection also constitute risk for hepatitis B infection. Individuals at risk for HIV infection should be informed of the risk of hepatitis B and the availability of hepatitis B vaccine.

Reference:
1. Centers for Disease Control. Update on hepatitis B prevention. MMWR 1987:36(23);353-360,366.

Hepatitis B Prophylaxis Following Accidental Needlestick Injuries

The Bureau of Communicable Disease Control has received several reports of accidental injuries from hypodermic needles discarded in public areas. Hepatitis B prophylaxis recommendations for health care workers can be applied, with some modification, to other individuals who sustain accidental injuries from intravenous needles.

Recommended prophylaxis for health care workers exposed to needles from unknown sources assumes a low probability that the source is hepatitis B surface antigen (HBsAg) positive. This low probability is unlikely given that needles discarded in public places were presumably used to inject illicit drugs. Recommended prophylaxis for health care workers exposed to sources known or suspected to be positive for hepatitis B surface antigen includes both hepatitis B immunoglobulin (HBIG) and hepatitis B vaccine. These recommendations are based on the assumption that the injured individual has a continuing risk of needlestick injuries, as well as the immediate risk of infection.

Individuals accidentally injured by needles picked up in public areas are less likely than health care workers to experience further needlestick injuries. While they do have an immediate risk of infection, the continuing risk may be less than that of the health care worker. In addition, the HBIG and hepatitis B vaccine recommended for prophylaxis are relatively expensive and not provided to the public by the Department of Public Health (except to infants born to HBsAg positive mothers). Consequently, individuals who are not likely to sustain further injuries or who cannot afford the cost of the above treatment may be offered immune serum globulin (ISG). ISG provides anti-HBsAg at a titer of at least 1:100. A dose of 0.06 mg/kg (5 cc for the average adult) can be expected to offer some protection. If vaccine does not follow, the dose of ISG should be repeated in one month. HBIG, if given without accompanying vaccine, should be administered again after one month.

The necessity of two doses of HBIG for adequate prophylaxis means that the cost/benefit advantage falls to hepatitis B vaccine given with either an initial dose of HBIG or ISG. Despite the fact that repeated needle exposure is unlikely, sexual exposure is possible over a lifetime for either children or adults, making the lasting protection of vaccine more desirable. The costs and benefits of the various options are summarized in Table 1.

Table 1. Post-exposure Prophylaxis Treatment Options for Hepatitis B

	approximate cost	efficacy
HBIG + 3 doses of vaccine	$250	immediate and long term protection
HBIG + HBIG in 1 month	$300	only immediate protection
ISG + 3 doses of vaccine	$100	some immediate and long term protection
ISG + ISG in 1 month	$ 10	some immediate protection

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING October 31, 1987

DISEASE	CASES REPORTED WEEKS 40 THROUGH 43			TOTAL CASES REPORTED TO DATE		
	1985	1986	1987	1985	1986	1987
AIDS	52	87	161	620	898	1163
AMEBIASIS	55	47	25	660	494	331
CAMPYLOBACTER	47	62	24	419	575	336
COCCIDIOIDOMYCOSIS	-	-	-	8	3	2
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	70	66	55	681	724	645
GIARDIASIS	58	49	27	464	353	233
GONORRHEA	551	579	485	6129	5016	5168
HEPATITIS Type A	13	12	10	146	107	152
HEPATITIS Type B	23	15	11	175	133	147
HEPATITIS Non A-Non B	2	-	-	24	30	15
HEPATITIS Type Unspecified	1	3	2	16	15	6
LEPROSY	2	1	-	54	9	8
MALARIA	3	2	-	23	21	12
MEASLES	-	-	-	1	2	12
MENINGITIS, BACTERIAL	1	-	-	12	11	13
MENINGITIS, VIRAL	2	-	-	13	9	1
MUMPS	1	2	-	9	8	6
PERTUSSIS	-	-	-	2	4	3
PSITTACOSIS	-	2	-	4	3	1
RUBELLA	1	-	-	6	5	4
SALMONELLOSIS	22	16	15	181	201	176
SHIGELLOSIS	33	32	26	319	357	337
SYPHILIS, Total	81	43	49	805	692	587
SYPHILIS, Primary & Secondary	45	14	22	432	313	209
TUBERCULOSIS (all forms)	20	23	29	233	236	269
TYPHOID FEVER	2	-	1	8	5	3
Total deaths reported this period		582	692		6539	7000
Deaths from pneumonia this period		15	23		226	218

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Guidelines for the Control of Human Immunodeficiency Virus Infection in Adolescents

Adolescent AIDS Task Force
Perinatal and Pediatric AIDS Advisory Committee
Department of Public Health
City and County of San Francisco

Perinatal and Pediatric AIDS Advisory Committee
Adolescent AIDS Task Force

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The information and recommendations contained in this report were developed and compiled by the Adolescent AIDS Task Force, a subcommittee of the Perinatal and Pediatric AIDS Advisory Committee of the Department of Public Health, City and County of San Francisco. It included representatives from the Adolescent Medicine Divisions of the Departments of Pediatrics of San Francisco General Hospital and the University of California, San Francisco; the AIDS Office, the Bureau of Family Health, the Bureau of Communicable Disease Control, Community Substance Abuse Services, and Forensic Services, San Francisco Department of Public Health; the medical and juvenile justice staff of Youth Guidance Center, San Francisco's juvenile detention facility; community agencies serving sexual minority and homeless adolescents; the AIDS Health Project; and the National Center for Youth Law. These recommendations were developed in response to requests from juvenile justice staff and other agencies involved in residential placements of adolescents for guidelines on antibody testing and placement of youth at risk for or infected with human immunodeficiency virus (HIV). This includes adolescents with Centers for Disease Control (CDC)-defined acquired immunodeficiency syndrome (AIDS), those with lesser clinical manifestations of HIV infection such as AIDS-related complex (ARC), and those with asymptomatic infection.

The recommendations which follow apply to all adolescents known to be infected or at risk of being infected with HIV. They are designed to supplement previously published guidelines for the control of perinatally transmitted HIV infection (1,2) and for the education of HIV-infected children (3,4). They were approved by the Health Commission on March 17, 1987, and are being distributed to health care providers, clinics, hospitals and interested individuals.

BACKGROUND

HIV Infection in the Adolescent Age Group

Of the 42,354 cases of AIDS reported to the CDC through October 5, 1987, 170 cases of AIDS occurred in persons 13 to 19 years old. This represents approximately 0.4% of all reported AIDS cases. The median age of these patients was 18 years old, and 95% were 17 years old or older. Forty-two percent were white, 37% black, and 19% Hispanic, with a male to female ratio of 5.3:1. They were reported from 31 states, the District of Columbia, and Puerto Rico; 19 (11%) were from California. Of the 170 adolescents with AIDS, 77 (45%) acquired HIV sexually (64 homosexual or bisexual males, 13 heterosexuals), 62 (36%) had acquired it through transfusion of infected blood or blood products, 11 (7%) acquired it through intravenous drug use, 10 (6%) acquired it either sexually or through intravenous drug use, and for 10 (6%) the route of acquisition was undetermined (Table 1). Overall, 13% had histories of intravenous drug use (CDC, unpublished data). In San Francisco, as of the same date, there had been 5 cases of AIDS reported in adolescents. All were 17 years old or older; two were white, one black, and two Hispanic. Four were homosexual or bisexual males, and one was a hemophiliac (San Francisco Department of Public Health, unpublished data). Thus, both nationally and locally, adolescent AIDS and, by inference, all reported adolescent AIDS cases are primarily diseases of older homosexual or bisexual male adolescents and hemophiliacs, with a higher proportion of non-whites than compared to AIDS in older persons. In interpreting potential risk for adolescents, however, it should be noted that the incidence of AIDS rises sharply in the 20-24 year old age group with 1,887 (4.5%) cases nationally occurring in this group (Table 1). Due to the long latency period of the disease, many of

these young adults probably contracted the infection during early adolescence.

HIV Transmission in Households

None of the identified cases of HIV infection in the United States are known to have been transmitted in school, day care, or foster care settings, or through other casual person-to-person contact (4). Other than sexual partners of HIV-infected patients, infants born to infected mothers, or two cases involving non-parenteral transmission of HIV from a patient to a person providing extended nursing care (5,6), none of the family members of the over 42,000 AIDS patients reported to CDC have developed AIDS. Eleven studies of family members of patients with HIV infection have failed to demonstrate HIV transmission to adults who are not sexual contacts of the infected patients or to children who have not already been infected perinatally (7-17). However, if casual person-to-person transmission of HIV infection were to exist, it would theoretically be greatest among young children. This theoretical transmission would most likely involve exposure of open skin lesions or mucous membranes to blood and possibly other body fluids of an infected person. We emphasize that there is no evidence of this type of transmission occurring in any setting.

HIV Transmission in Health Care Settings

Transmission of HIV in hospitals and other health care settings has been evaluated in nine published studies involving over 2,000 health care workers with percutaneous or mucous membrane exposure to blood or body fluids of HIV-infected patients (18-27). In these studies, three health care workers seroconverted following percutaneous exposure.

In addition to these prospective studies, ten persons who provided care to infected patients and denied other risk factors have been reported to have acquired HIV infection. Four of these health care workers had needlestick exposures to blood of infected patients (27-30). Two were persons who provided home nursing care to infected patients; although neither sustained a needlestick injury, both had extensive contact with blood or other body fluids (5,6). Three other health care workers had non-needlestick exposures to blood from infected patients (31). Although the exact route of transmission for these last three infections is not known, all three health care workers had direct contact between their skin and blood of infected patients, all had skin lesions that may have been contaminated by blood, and one also had a mucous membrane exposure. The final case involved a dentist enrolled in a seroprevalence study of 1,231 dentists and dental hygienists. Although no exposure to a known HIV-infected person could be documented, epidemiologic investigation did not identify any other risk factor for infection, and the infected dentist had a history of both needlestick injuries and hand trauma and did not routinely wear gloves when providing dental care (32).

On the basis of these and other data, it has been concluded that needlestick-associated transmission of HIV occurs extremely infrequently in health care settings, certainly much less so than hepatitis B (33), probably in less than 0.5% of needlesticks and mucous membrane exposures involving seropositive patients (34). Infection control recommendations have focused on minimizing needlestick injuries (34,35) and emphasize the need to consider all patients as potentially infected with HIV and/or other blood-borne pathogens and to treat blood and body fluids from all patients as potentially infectious (26).

Existing Guidelines for Correctional Settings

National recommendations have not been made regarding prevention of HIV infection in correctional settings. In a survey of 50 state correctional departments and 33 large city and county jail systems, none of the eight cases of AIDS in correctional staff was related to inmate contact (36). The great majority of AIDS patients in prisons and jails were intravenous drug users. Eighty-three percent of these institutions had educational programs for staff and inmates, and the large majority had adopted conservative approaches to testing with 88% of the state and 79% of the city and county facilities limiting testing to diagnosis of symptomatic inmates or testing at the request of inmates, or not doing any testing. Only six state and seven city and county institutions did routine testing. Therefore, in large part, correctional institutions have opted for limited testing despite the fact that many house large numbers of inmates in well recognized risk groups.

Concerns Regarding the Legal Rights of Minors

California statutes guarantee minors the right to obtain services for the diagnosis and treatment of sexually transmitted diseases (37), and for the provision of services related to pregnancy, pregnancy diagnosis (38), and chemical dependency (39) without parental consent. California law also provides minors with the same rights to confidentiality as adults seeking such services (40). Chapter 1.11, Section 199.20 et seq of the California Health and Safety Code (AB 403) requires informed written consent before serologic testing for the presence of HIV may be performed or test results may be disclosed. Current legal interpretation of the above statutes is that adolescents over age 12 have the same rights to consent and confidentiality in the area of HIV testing as do adults and do not require their parents' consent to be tested. Thus, adolescents should not be tested without their written consent; and their test results should only be disclosed based on their written authorization. All adolescents should be encouraged to share vital health information with their parents.

RECOMMENDATIONS

Education

1. **Adolescents in School Settings.** It is imperative that schools provide meaningful information about the modes of transmission and the risks of acquiring HIV infection to students, parents and teachers. The basic principles of health promotion and communicable disease prevention should be part of the K-12 curriculum. In addition, instruction in reproductive health, sexual values and attitudes, as well as the prevention of sexually transmitted diseases including HIV infection should begin in the sixth grade at the latest. All curricula should include information on practices to minimize sexual exposure to HIV. Personnel responsible for teaching these units should be fully trained and competent in handling the sensitive issues raised by this subject area. Parents should be informed of the inclusion of this material in the curriculum and invited to review and comment on the contents. They should also, where possible, be provided with the opportunity to participate in informational meetings to address their concerns and answer their questions. In addition to previous recommendations regarding education (3), we recommend that the Board of Education develop and institute knowledge testing for students in the area of health education, including HIV and other communicable diseases, to guarantee that the material has been taught in an effective manner.

2. **Homeless and Truant Adolescents.** Public and private agencies serving these populations should develop educational materials

and intervention strategies which can be integrated into their current programs. Efforts should be made to reach homeless adolescents, including non-English speaking youth, in areas and population groups of the city not currently served by existing providers. All personnel involved in these programs should be given adequate information and training in HIV prevention, identification of those at risk for HIV infection, and techniques for modifying adolescents' sexual behavior and intravenous drug use. Sexually active youth should be encouraged to engage in protected sex practices, regardless of sexual orientation, drug use, or other risk indicators.

3. **Outpatient Services for At-Risk Adolescents.** This group includes adolescents involved in drug, alcohol, and mental health programs and adolescents receiving family planning services, sexually transmitted disease treatment, and specialized services for sexual minorities. We recommend that the same guidelines for homeless and truant adolescents (above) be followed for this group.

4. **Adolescents in Residential Settings*.** Due to the special circumstances in these facilities, we recommend a comprehensive approach similar to that for the schools, i.e., thorough education of staff in the areas of sexuality, sexually transmitted diseases, and HIV prevention including safer sex guidelines. Additionally, staff should be competent in conducting AIDS and sexually transmitted disease prevention education programs, group sessions for the residents, and education programs for parents where possible. Finally, staff should observe general infection control procedures.

* Residential settings include foster parent homes, group homes, residential treatment, and detention facilities.

Testing Recommendations

In general we believe that testing for the presence of anti-HIV antibody is not useful for adolescents and recommend that it not be routinely advocated or required. Occasionally, antibody testing may be appropriate in evaluating adolescent patients with unexplained adenopathy, other signs and symptoms of HIV infection or who are at risk and contemplating pregnancy. In these rare instances, testing should be conducted in a medical specialty setting experienced in the diagnosis and treatment of HIV infection. In other instances, anonymous testing at alternative test sites may be appropriate as an educational experience for certain highly motivated adolescents. In any event, this testing must be voluntary and should not be conducted while the adolescent is in detention. Confidentiality and consent requirements should be strictly observed with respect to any testing of adolescents. Psychological risks to youth known to be depressed or suicidal should be taken into consideration in all pretest and post test counseling.

1. **Schools.** Previously published guidelines developed by the Department of Public Health for the San Francisco Unified School District recommend that (a) widespread school-based educational programs be implemented for students, parents, and teachers; (b) there be no mandatory HIV antibody testing for school staff; (c) there is no contraindication for school attendance although placement decisions regarding students known to be infected with HIV should be reviewed by a joint committee of the Department of Public Health and the San Francisco Unified School District; (d) strict confidentiality be maintained; and (e) uniform disinfection procedures be adopted (3).

2. **Pregnant Adolescents.** Previously published guidelines developed by the Department of Public Health recommended that HIV antibody testing be conducted on a confidential basis with informed consent by the prenatal care provider in the first trimester or as early as possible only for women who are at risk of having been exposed to HIV infection (1).

3. **Residential Settings.** Residential settings include foster care, group homes, shelters for homeless adolescents, and juvenile justice and mental health facilities. All adolescents entering a residential setting should have a complete medical evaluation upon admission. Even if the adolescent is found to be at risk for HIV infection, testing should occur only in accordance with general guidelines stated above. We do not recommend mandatory testing, regardless of risk status, due to the low incidence of seropositivity in this population.

There is no reason to require testing of staff in these settings. All residential settings need to insure that they have current infection control guidelines stressing uniform disinfection procedures for body fluid spills. All staff need to be educated about the techniques involved in implementing these guidelines.

Recommendations for Youth Known to be Infected with HIV

We recommend that adolescents known to be infected with HIV have no restrictions on access to educational or treatment programs except when their health provider recommends such restrictions to protect them from exposure to infection. Previously published guidelines for the education of children infected with HIV provide for a case review for any infected student enrolling in the schools (3). A baseline medical evaluation on any student entering school should be encouraged. Adolescents known to be infected should be aggressively counseled on limiting further transmission of infection and the youth should be offered ongoing psychological counseling in an accessible setting. Additionally, the adolescents should be encouraged to inform past, present and future sexual partners that they are infected.

1. **Youth in Detention.** All adolescents entering detention should have a thorough medical evaluation. A specially designated on-site physician should make the determination as to whether adolescents can be housed in a routine setting or whether there needs to be a more protected environment. Routine isolation is not indicated. Regardless of the placement decision, the right of the adolescent to confidentiality must be maintained. The fact that an adolescent is infected should not be disclosed to anyone (including other detained adolescents or probationary counseling or residential staff) except for medical staff involved in his or her direct care. Protocols should be developed by providers to guarantee confidentiality of medical records. As mentioned previously, staff should follow strict infection control procedures in these settings whether or not these facilities are housing HIV-infected individuals.

2. **Youth in Other Residential Facilities.** There is no reason to exclude asymptomatic HIV-infected adolescents from any residential setting. A medical review should be done prior to placement to determine any special needs. Confidentiality should be carefully maintained. Disclosure of HIV status to social service, legal, or probation personnel should not occur unless, as determined in the medical review, such disclosure is necessary for the protection of the adolescent or others with whom he or she may have contact. Disclosure to anyone other than the medical provider should occur only with the written consent of the adolescent, or by court order when deemed medically necessary.

Clinically ill adolescents require special care, which will have to be arranged on a case-by-case basis.

Special confidential counseling should be available for infected adolescents in all residential settings. Circumstances may dictate whether it is wise to provide this on or off site. Counseling should include psychosocial support as well as coordination of services which the adolescent currently needs or will need to cope with the disease. Detailed information on the modes and prevention of transmission should be provided.

Recommendations for Asymptomatic Adolescents with High Risk Behaviors Whose Antibody Status is Unknown

Intensive educational efforts should be targeted to this group and their service providers. As long as the incidence of HIV infection and clinical AIDS remains low in adolescents, residential placements should not be restricted, including placement for those housed in correctional settings. Routine testing is not recommended for incarcerated adolescents or any other adolescent in this group. Adolescents who have been counseled and request testing should be referred to anonymous test sites.

CONCLUSIONS

These are interim guidelines which will need to be reviewed as more information becomes available on the incidence and natural history of HIV infection in adolescents. These guidelines will be revised annually or sooner as necessary. We emphasize that the prevalence of HIV infection among adolescents in San Francisco appears to be low and that there is no evidence supporting HIV transmission among adolescents not involved in sexual contact with infected partners, not sharing needles, and not exposed to blood or blood products. We conclude that routine testing for HIV infection should not be conducted in any group of adolescents at this time.

Table 1. AIDS Cases by Transmission Category and Age Group, United States*

Transmission Category	Age Group (years)			
	13–19		20–24	
	N	(%)	N	(%)
Homosexual or bisexual male	64	(38)	1173	(62)
Intravenous (IV) drug user	11	(7)	216	(11)
Homosexual/bisexual male and IV drug user	10	(6)	188	(10)
Hemophiliac/Coagulation disorder	52	(31)	48	(3)
Transfusion, blood/components	10	(6)	30	(2)
Heterosexual cases	13	(8)	143	(8)
Undetermined	10	(6)	89	(5)
Total	170		1,887	

* Source: Centers for Disease Control. Provisional data through October 5, 1987.

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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

Vol. 4, No. 1 January 1988

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Update: Acquired Immunodeficiency Syndrome in Homosexual and Bisexual Men - San Francisco

As of December 31, 1987, 4,232 cases of AIDS and 2,544 deaths from AIDS had been reported to the San Francisco Department of Public Health. Of these, 4,083 (96%) cases and 2,508 (99%) deaths were among homosexual and bisexual men. This corresponds to an incidence of AIDS in the estimated 25,800 HIV-infected homosexual and bisexual men in the city of 15.8% (1).

Of these 4,083 patients, 1,761 (43%) were diagnosed in 1985 or earlier and 2,322 (57%) were diagnosed in 1986 and 1987. While AIDS cases have increased steadily in homosexual and bisexual men in San Francisco since the beginning of the epidemic, the rate of growth has been gradually slowing (Figure 1).

Of the 1,761 patients diagnosed in 1985 or earlier, 1,548 (88%) were white and 213 (12%) nonwhite while among the 2,322 patients diagnosed in 1986 and later, 1,946 (84%) were white and 376 (16%) nonwhite (p=.0003). The number of AIDS patients diagnosed in 1986 and later has risen significantly more rapidly in nonwhite homosexual and bisexual men (77%) than in white homosexual and bisexual men (26%) with the most rapid growth occurring among Asians and Pacific Islanders (161%, p=.016) and blacks (85%, p=.016, Table 1).

Among cases diagnosed in 1985 and earlier, the mean age was 37.3 years, and 67% of cases were less than 40 years old. However, in 1986 and later, the mean age of cases increased to 38.9 years (p=.006), and 61% were less than 40 (p<.0001).

There has been a small but significant increase in the proportion of homosexual and bisexual men with AIDS living outside the Castro district over this same time period. The proportion of men living inside of 19 contiguous census tracts with the highest incidence of AIDS in the city and roughly corresponding to the Castro district (2) has increased 21% as opposed to a 37% increase in men living outside the 19 census tracts (p=.02, Table 2). There has also been a small increase in the proportion of bisexual men as compared to homosexual men with AIDS. The proportion of bisexual men with AIDS has increased 64% while the proportion of exclusively homosexual men increased 30% (p=.081). Bisexual men with AIDS and men living outside the 19 census tracts were more likely to be nonwhite than exclusively homosexual men (p<.0001) or men living inside the 19 census tracts (p<.0001, Table 3).

There has been no significant change in the proportion of homosexual and bisexual men with histories of intravenous drug use over time. However, bisexual men (p=.001), blacks (p<.05) and men living outside the 19 census tracts (p=.014) were significantly more likely to have histories of intravenous drug use.

Reported by the Surveillance and Investigations Branch, AIDS Office.

Editorial Note: AIDS has historically been and continues to be predominantly a disease of homosexual and bisexual men in San Francisco despite the emergence of a smaller second wave of the epidemic involving primarily black and Latino heterosexual intravenous drug users (3-5). Despite the apparent slowing of the rate of growth of the epidemic in homosexual and bisexual men, the current estimated incidence of AIDS

among HIV-infected men, more than 2-fold lower than the reported cumulative incidence of 36% following 7-1/3 years of HIV infection in a cohort of San Francisco homosexual and bisexual men (6). This suggests that large numbers of AIDS cases will continue to occur in homosexual and bisexual men into the forseeable future (1).

The disproportionate growth of AIDS cases among nonwhite homosexual and bisexual men has been previously reported (4,7). An additional report from San Francisco has suggested that nonwhite homosexual and bisexual men have a higher prevalence of human immunodeficiency virus (HIV) infection than white homosexual and bisexual men (8).

The increasing age of AIDS cases has not been previously reported although older age has been associated with more rapid progression from HIV infection to clinical AIDS (9) and with shorter survival following a diagnosis of AIDS (10). The most likely explanation is that the increasing age of AIDS patients is merely a reflection of an aging of the infected cohort. However, older men have been shown to develop AIDS significantly more rapidly than younger men (9) and thus should be leaving the infected asymptomatic cohort earlier. If no seroconversion is occurring, the trend should be that the aging of the cohort is less rapid than would normally be expected. Our finding that more recently diagnosed homosexual and bisexual AIDS patients are older than those diagnosed earlier in the epidemic, therefore, may suggest that older men became infected with HIV later than younger men. Additional data from San Francisco homosexual and bisexual men who have participated in a hepatitis B vaccine trial since 1978 suggest that older men did seroconvert later in the epidemic than younger men (NA Hessol, unpublished data).

While the changes in proportion of bisexual men and men living outside of the 19 census tracts were small, taken with our findings of an increasing proportion of nonwhite homosexual and bisexual men with AIDS and the association among nonwhite race, bisexuality, and census tract of residence, they suggest later seroconversion among men living at the margins of the gay community - nonwhite, bisexual, and geographically separated from the central gay community.

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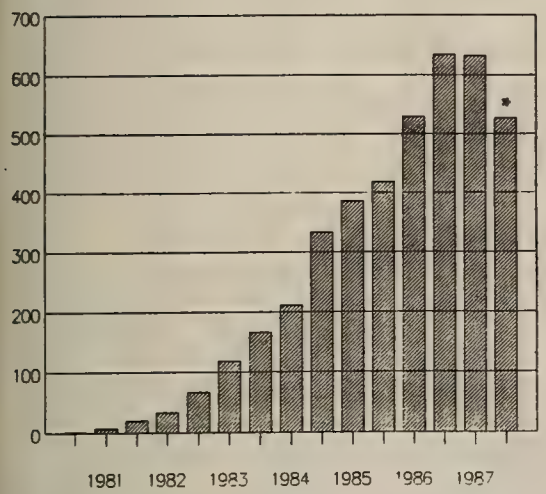

Figure 1. AIDS Cases in Homosexual and Bisexual Men by Half-Year of Diagnosis, San Francisco, 1980–1987 (cases reported through December 31, 1987).

*** reporting for recent months is incomplete**

Table 1. AIDS Cases in Homosexual and Bisexual Men by Race/Ethnicity and Year of Diagnosis, San Francisco.*

	Year of Diagnosis ≤1985 N	(%)	≥1986 N	(%)	Percentage Increase	p**
White	1548	(87.9)	1946	(83.8)	26	.0003
Black	78	(4.4)	144	(6.2)	85	.016
Latino	117	(6.6)	181	(7.8)	55	NS
Asian/Pacific Islander	18	(1.0)	47	(2.0)	161	.016
Native American	0	(0)	4	(0.2)	-	NS
Total	1761		2322		32	

* Cases reported through December 31, 1987
** X^2 test with Yates correction, compared to all others

Table 2. AIDS Cases in Homosexual and Bisexual Men by Census Tract of Residence and Year of Diagnosis, San Francisco, 1980–1987*

	Year of Diagnosis ≤1985 N	(%)	≥1986 N	(%)	Percentage Increase**
Inside 19 Census Tracts***	786	(49.6)	950	(45.6)	21
Outside 19 Census Tracts	800	(50.4)	1132	(54.4)	42
Total	1586		2082		31

* Cases reported through December 31, 1987. San Francisco residents only.
** p=.020
*** 19 contiguous census tracts roughly corresponding to the Castro district (2).

Table 3. AIDS Cases in Homosexual and Bisexual Men by Race/Ethnicity, Sexual Orientation, Census Tract of Residence,* and History of Intravenous Drug Use, San Francisco, 1980–1987**

	White (N=3494)	Black (N=222)	Latino (N=298)	Asian Pacific Islander (N=65)	Native American (N=4)	p***
Bisexual, %	5.4	13.1	15.1	9.2	0	<.0001
Intravenous Drug User,%	12.7	18.9	8.1	4.6	25.0	NS****
	(N=3139)	(N=193)	(N=273)	(N=59)	(N=4)	
Outside 19 Census Tracts%*	51.0	54.4	67.0	66.1	75.0	<.0001

* 19 contiguous census tracts roughly corresponding to the Castro district (2), San Francisco residents only
** Cases reported through December 31, 1987
*** X^2 with Yates correction, white compared to non-white
**** Black compared to non-black, p <.004

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING Nov. 28, 1987

DISEASE	CASES REPORTED WEEKS 44 THROUGH 47			TOTAL CASES REPORTED TO DATE		
	1985	1986	1987	1985	1986	1987
AIDS	66	120	159	686	1018	1322
AMEBIASIS	55	28	27	715	522	358
CAMPYLOBACTER	39	41	25	458	615	361
COCCIDIOIDOMYCOSIS	–	–	–	8	3	2
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	56	91	57	737	815	702
GIARDIASIS	30	24	20	494	366	253
GONORRHEA	431	463	557	6560	5479	5725
HEPATITIS Type A	15	14	7	161	121	159
HEPATITIS Type B	13	9	12	188	143	159
HEPATITIS Non A-Non B	–	–	2	24	30	17
HEPATITIS Type Unspecified	–	–	1	16	15	7
LEPROSY	–	1	–	54	10	8
MALARIA	3	4	4	26	25	16
MEASLES	–	–	–	1	2	12
MENINGITIS, BACTERIAL	4	5	–	16	16	13
MENINGITIS, VIRAL	1	1	–	14	10	1
MUMPS	–	1	1	9	9	7
PERTUSSIS	–	–	–	2	4	3
PSITTACOSIS	1	–	–	5	3	1
RUBELLA	1	–	–	7	5	4
SALMONELLOSIS	15	29	22	196	230	198
SHIGELLOSIS	29	21	44	348	378	381
SYPHILIS, Total	76	61	51	881	753	638
SYPHILIS, Primary & Secondary	34	19	23	466	332	232
TUBERCULOSIS (all forms)	36	24	21	269	260	290
TYPHOID FEVER	2	1	–	10	6	3
Total deaths reported this period		621	675		7160	7675
Deaths from pneumonia this period		14	35		240	253

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Chromosomally-mediated antimicrobial resistant Neisseria gonorrhoeae in San Francisco, 1987

Infections caused by strains of Neisseria gonorrhoeae that are resistant to antimicrobials constitute a growing public health problem in the United States. With the use of sulfonamides and penicillin in the 1940s and 1950s, progressive resistance to these drugs evolved. The recommended therapeutic dose of aqueous procaine penicillin G for uncomplicated gonorrhea (GC) increased from 200,000 units in 1945 to 4.8 million units in 1972. However, within the past decade clinically significant resistance has been described for the three classes of drugs widely used for the treatment of gonorrhea: the penicillins, the tetracyclines, and the aminoglycosides.

Antimicrobial resistance in the gonococcus can be plasmid-mediated, chromosomally-mediated, or both. In the United States, many variations have been identified; currently the most important types of resistance from a public health standpoint are plasmid-mediated resistance to penicillin (penicillinase-producing Neisseria gonorrhoeae, PPNG); chromosomally-mediated resistance to penicillin, tetracycline, and spectinomycin; and plasmid-mediated resistance to tetracycline (TRNG). While the incidence of PPNG now accounts for 2% of all reported gonococcal infections in the United States(1), the proportions of infections caused by organisms with chromosomally-mediated resistance have been determined for only a limited number of geographical areas(2,3) for two reasons. First, while PPNG can be detected by a rapid diagnostic test and over 90% of public health laboratories routinely test every GC isolate for production of Beta-lactamase, laboratory diagnosis of chromosomally-mediated resistance and TRNG requires more expensive antimicrobial susceptibility tests. Many public health laboratories can not afford to routinely test for these types of antimicrobial resistance. Secondly, in most cases to date these strains have gone unrecognized because they have not been associated with treatment failures, either because the level of resistance has not been high or because the antibiotic in question was not used for therapy. No clinical distinctions occur between the infections caused by resistant and sensitive strains of GC.

To better define the scope of antimicrobial resistant strains of N. gonorrhoeae, in August 1986 the Centers for Disease Control (CDC) established a sentinel surveillance system called the Gonococcal Isolate Surveillance Project (GISP). In this project, regionally based laboratories process a prospective consecutive sample of GC isolates from selected sexually transmitted disease (STD) clinics. A test for Beta-lactamase is performed and minimum inhibitory concentrations (MICS) to penicillin, tetracycline, spectinomycin, cefoxitin, and ceftriaxone are determined. Isolates are classified according to the CDC surveillance definitions of plasmid-mediated resistance (PPNG, TRNG) and chromosomally-mediated resistance. Since June of 1987, City Clinic, the San Francisco municipal STD clinic has been participating in the GISP. Each month the first 25 urethral isolates from male patients are submitted to the regional laboratory in Seattle. This report summarizes the results from San Francisco for the first 6 months of

the program.

Between June and November of 1987, 149 gonococcal isolates were evaluated. These isolates represent 8 percent of the 1758 GC isolates collected at City Clinic during this time period. No isolates were PPNG and one isolate was TRNG (MIC ≥16ug/ml). Eleven percent of the 148 isolates without plasmid-mediated resistance were chromosomally resistant to penicillin, 54% were chromosomally resistant to tetracycline and 23% were chromosomally resistant to cefoxitin (Figure 1). No isolates were resistant or of intermediate susceptibility to ceftriaxone or spectinomycin. The following geometric mean MICS were found: penicillin .18 ug/ml; tetracycline .69 ug/ml (excluding the TRNG isolate); cefoxitin .40 ug/ml; ceftriaxone .004 ug/ml; spectinomycin 17.7 ug/ml. These results from San Francisco are similar to those reported at the national level(4).

The mean age of the men from whom these 148 isolates with chromosomally-mediated resistance were obtained was 27 years; 65% were black, 25% white; 81% were heterosexual. No significant difference among age, race or sexual orientation was identified among patients with chromosomally-mediated resistant gonococcal infection and those with antimicrobial susceptible infection, although the number of patients is small.

Comments

Resistant strains of N. gonorrhoeae within a community have adverse health and financial consequences. Infected persons who are inadequately treated may be more likely to develop sequelae of acute gonococcal infection such as pelvic inflammatory disease (PID), gonococcal ophthalmia, and disseminated gonococcal infection (DGI) as well as further spread of the resistant organism within the community. Diagnosis and treatment of persons infected with resistant organisms significantly impact on cost of patient care with additional laboratory tests, added drug costs, extra clinic visits, and more extensive disease control intervention activities. Therefore, GC therapy ideally should be based on accurate and timely surveillance of antimicrobial resistance in order to limit the transmission of these resistant organisms.

In the first quarter of 1987, strains of PPNG became a significant problem in San Francisco(5). As a result, new CDC N. gonorrhoeae treatment and disease control protocols(6) were adopted. However, the incidence of TRNG or chromosomally-mediated resistant N. gonorrhoeae has previously been unknown. While the number of isolates collected in this study thus far are small, the results show a high incidence of chromosomally-mediated resistance to tetracycline in San Francisco; in addition, one strain of TRNG was identified. The incidence of chromosomally-mediated resistance to cefoxitin was also higher than expected. It is important to note, however, that no strains resistant to ceftriaxone have emerged since recommended therapy for GC infections in San Francisco was changed in May of 1987 because of the PPNG epidemic. Trends in ceftriaxone susceptibility will require continued monitoring as long as 125 mg of ceftriaxone is used in the treatment of patients with GC.

These results when compared with those from the National Gonorrhea Therapy Monitoring Study(7), show a marked increase in the incidence of chromosomally-mediated resistant organisms. CDC guidelines for the management of antibiotic resistant strains of GC suggest that in localities where the population of strains with chromosomally-mediated resistance is greater than five percent, the treatment protocol may require modification.

Based on these preliminary data regarding chromosomally-mediated resistance and the fact that PPNG still accounts for greater than one percent of all GC infection, current guidelines for treatment of N. gonorrhoeae in San Francisco are outlined below:

1. Ceftriaxone is still the drug of choice for treating persons with presumptive uncomplicated GC infection (for details see ref. 5).
2. Tetracycline alone should no longer be considered adequate therapy for GC infections. The use of cefoxitin also should be avoided.
3. All patients with GC infections should return 3-5 days after completing all antibiotics for a test of cure, especially patients treated with an antibiotic other than ceftriaxone.

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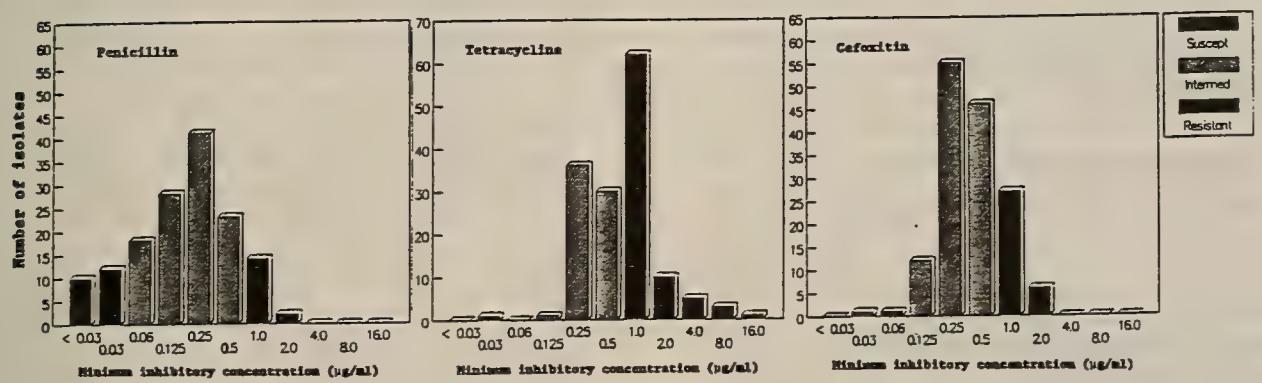

Figure 1. Distribution of minimum inhibitory concentrations of chromosomally-mediated resistance - Gonorrhea Isolate Surveillance Project, San Francisco, August 1987-November 1987

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING Jan. 2, 1988

DISEASE	CASES REPORTED WEEKS 48 THROUGH 52			TOTAL CASES REPORTED TO DATE		
	1985	1986	1987	1985	1986	1987
AIDS	67	103	134	753	1121	1456
AMEBIASIS	51	32	43	766	554	401
CAMPYLOBACTER	33	41	45	491	656	406
COCCIDIOIDOMYCOSIS	-	-	-	8	3	2
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	77	39	64	814	854	766
GIARDIASIS	29	32	48	523	398	301
GONORRHEA	601	661	629	7161	6140	6354
HEPATITIS Type A	11	10	8	172	131	167
HEPATITIS Type B	12	9	11	200	152	170
HEPATITIS Non A-Non B	-	3	2	24	33	19
HEPATITIS Type Unspecified	1	1	1	17	16	8
LEPROSY	-	1	1	54	11	9
MALARIA	4	3	2	30	28	18
MEASLES	-	-	-	1	2	12
MENINGITIS, BACTERIAL	1	-	2	17	16	15
MENINGITIS, VIRAL	-	1	-	14	11	1
MUMPS	2	-	-	11	9	7
PERTUSSIS	-	-	-	2	4	3
PSITTACOSIS	-	-	-	5	3	1
RUBELLA	1	-	-	7	5	4
SALMONELLOSIS	14	20	20	210	250	218
SHIGELLOSIS	23	44	43	371	422	424
SYPHILIS, Total	86	53	48	967	806	686
SYPHILIS, Primary & Secondary	43	23	19	509	355	251
TUBERCULOSIS (all forms)	39	23	31	308	283	321
TYPHOID FEVER	-	-	-	10	6	3
Total deaths reported this period		814	833		7974	8508
Deaths from pneumonia this period		29	24		269	277

CITY AND COUNTY OF SAN FRANCISCO
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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

Vol. 4, No. 3 March 1988

SF
P70
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MAR '88

APR 7 1988

Human Rabies in San Francisco: Report of a Case

Clinical History

On November 28, 1987 a 13 year old Filipino immigrant male was seen in a hospital emergency room complaining of a two day history of fever and back pain with "stiffness". He had no nausea, vomiting, diarrhea, constipation or dysuria. On examination he was afebrile, diaphoretic and agitated. Paroxysms of stiffness and writhing of the torso were noted. The abdomen was normal. X-ray showed large amounts of stool and a normal lumbar spine. White blood count was 20,000 with 4% bands. Urinalysis showed 1-5 WBCs and 1-5 RBCs. Urine toxicology was ordered. He was sent home on Tylenol #3 and Flexeril with a diagnosis of back pain of unknown etiology.

The patient returned to the emergency room the following day because of increasing pain now described as RLQ. He also complained of painful priapism. On examination temperature was 38.3°C(R), BP 150/90, pulse 120. The patient was diaphoretic and in moderate distress. Abdominal exam was again negative. The urine from the previous day was reported as showing a cocaine derivative. WBC was 17,800 with 3% bands. The patient was admitted with a diagnosis of pylonephritis or appendicitis.

Despite the report of cocaine on the toxic screen, both the patient and his parents repeatedly denied drug use and a subsequent test on the same specimen was reported as negative. On the evening of admission an appendectomy was done. The appendix was normal. The WBC count gradually lowered to 11,000.

On the days following surgery the patient continued to have priapism and "peculiar movements associated with crying out and combativeness". He also complained of blurring of vision and inability to move his limbs or walk.

The CPK rose from 1300 to 3800 to greater than 4500 and then declined to 3300 IU/cc. Creatinine rose to 1.8 mg/dl. SGOT and LDH were elevated, SGPT and bilirubin normal. CSF collected on 11/30 and 12/2 was normal. CT scan of the head was negative. On 12/2 at 2 a.m. the patient's temperature rose from 37° to 41.7° in 20 minutes. At the same time blood pressure dropped to 74 then 54 systolic. With administration of normal saline, pressure returned to 143/74. The patient remained alert throughout.

Over the next several hours the patient was given Benadryl and Dantrilene which reduced the muscle spasms. Vital signs, however, became unstable with pulse of 40, systolic pressure of 60, and hypoventilation associated with pCO_2 of 55 and pO_2 of 78. The patient was intubated and transferred to a pediatric ICU. The leading diagnosis at transfer was metabolic encephalopathy. Other diagnoses entertained in the course of his illness included pseudoseizures, conversion hysteria and pheochromocytoma.

On initial examination at the second hospital the patient was noted to lack corneal reflexes although doll's eye and gag reflexes were present. He continued to have frequent episodes of sinus slowing and arrest. Mechanical ventilation was continued. The patient was examined thoroughly to rule out a black widow spider bite.

On admission to the second hospital CPK was 10,000 IU/cc. A CT scan of the head showed watershed infarcts, thought to be secondary to the hypotensive episode prior to transfer. Serum acetylcholinesterase and red blood cell cholinesterase levels were normal. The CPK decreased to 600 in association with the administration of IV fluids and neuromuscular blockade.

The patient developed random eye movements suggesting a diagnosis of encephalitis. The first abnormal CSF

was drawn on 12/3 (protein 52, WBC 4); repeat on 12/8 showed 25 WBCs. MRI scan of the head was nondiagnostic. A nasal-pharyngeal culture grew Herpes simplex; although this was not thought to be the source of the encephalitis, the patient was started on acyclovir. The patient developed an ascending paralysis and his neurologic function continued to deteriorate. He died on 12/15 with a diagnosis of encephalitis of unknown etiology.

The Medical Examiner submitted brain tissue taken at autopsy to the San Francisco Public Health Laboratory. It was positive for rabies by direct fluorescent antibody assay.

CSF specimens examined post mortem showed no evidence of rabies antibody or virus in specimens taken on 11/30, 12/2 and 12/8. Serum specimens from 11/28 and 12/9 showed <1:8 titer of rabies antibody. A serum specimen taken at autopsy showed a titer of 1:65,536.

Epidemiologic Investigation

On the afternoon of Friday, December 18 the Public Health Laboratory notified the Bureau of Communicable Disease Control of a human brain specimen positive for rabies. The Bureau immediately began an investigation into 1) the source of the infection, 2) the possibility that others might have been infected concurrently, and 3) possible transmission of the primary infection to others.

Transmission to others may have occurred in the two hospitals where care was provided, in the household, during transport between hospitals, and during the autopsy. All contacts to the case in these places were questioned about possible exposure and advised of recommendations for rabies prophylaxis. Hospital employees were surveyed to determine their risk of possible exposure. Prophylaxis was recommended only for those with highest risk, but was not denied to others; of 177 providers who had cared for the child, 75 were given rabies prophylaxis. Twenty-five of these were determined to be in the high risk category. Twelve family members were given rabies prophylaxis, and the two individuals who transported the patient also received prophylaxis. It was determined that the autopsy staff had not been exposed and none were immunized.

1. **Travel.** The patient was reported to have left San Francisco only twice in the year preceding his death. One trip was a picnic in August at Coyote Point in San Mateo County. The family reported no animal contact on this trip. The second trip was a three day classroom expedition to Sonoma County about one month prior to the onset of symptoms. The teachers and students who had gone to Sonoma County were gathered on December 18 and questioned extensively about any animals seen or contacted. All students denied touching any mammals and none remembered that the patient had touched any. This negative information was especially significant because the purpose of the outing was a field exercise in natural history and both students and teachers were actively looking for animals.

Based on this information the Health Department determined that rabies prophylaxis was not necessary for any of the students or teachers who had accompanied the patient to Sonoma County.

2. **Home.** There were no parks in the immediate vicinity of the patient's home. He was reported to play only in the street outside the house or in the small back yard. There were no pets in the house. The only cat in the neighborhood was in good health. The family denied any travel outside of the country and no animals had been brought into the country by family or friends.

3. **Source detection.** Virus taken from the brain of the patient was sent to the Centers for Disease Control for monoclonal antibody typing in an attempt to determine the animal species which was the source of infection. Preliminary results indicate the most likely source to have been a carnivore.

Comment. Because there is strong negative information for the time spent outside the county and because the preponderance of time had been spent in San Francisco, it was determined that the patient most likely became infected in San Francisco County.

Rabies is a zoonosis which occasionally infects man. In the years prior to extensive immunization of dogs, human cases were not uncommon in the United States (1-2, Table 1). This continues to be the case in countries where canine rabies has not been controlled. A number of the remaining human rabies cases in the United States are the result of exposure to dogs in other countries(2).

The association between canine and human rabies has been demonstrated in San Francisco twice in this century. The number of animals found positive for rabies in San Francisco rose from a single case in 1911 to 282 in 1912. In 1913 there were 79 positive animals; this declined to 6 in 1914 and 2 in 1915. In association with this apparent epizootic there were six human cases of rabies reported in 1912 and three in 1913. There were no human rabies cases reported in San Francisco prior to 1912 and none from 1913 until February 1940, when a San Francisco man previously bitten or scratched by a stray cat died of rabies. Coincident with this human case there was an associated increase in the number of dogs found to be rabid. One animal case was reported in 1919, four in 1928, and one in 1929 and 1938. In the fourteen months from January 1939 to March 1940, 30 rabid dogs were reported.

The current animal reservoirs for rabies in the United States are primarily skunks and bats(1), although foxes and raccoons are also important in some regions. The current epizootic of raccoon rabies present on the Atlantic seaboard(3,4) has not been seen in California (D. Constantine, personal communication). Restriction on the importation of raccoons to California is an important measure to maintain this situation.

All mammals are susceptible to rabies and could become infected if bitten by a rabid animal. Dogs, wolves, skunks, foxes and bats have been demonstrated to be reservoirs of infection. Felines such as domestic cats, mountain lions and bobcats have been known to infect humans but these species act only as vectors and not as reservoirs. A variety of domestic animals including bovines and equines get rabies but these animals do not constitute a source of human infection. Currently cattle are the domestic animal most commonly infected in the United States(5).

Rodents (e.g., rats, mice, squirrels, muskrats, woodchucks) and Lagomorphs (rabbits, hares, pikas) are not thought to be an important vector or reservoir of rabies. No case of human rabies has ever been associated with them(1). The incidence of rabies in rodents remains almost non-existent except for the current raccoon rabies outbreak. As a result, bites to humans by rodents do not necessitate testing of the animals or post-exposure prophylaxis except in unusual circumstances, such as an unprovoked bite(1).

It is not uncommon for the source of human rabies infection to remain undiscovered. For the total number of 271 human cases reported from 1946-1986, 173(64%) had a confirmed or most probable source identified(Table 1). For the 46 cases reported from 1960-1987, 11 cases (24%) were of completely unknown origin(2,6-12).

Diagnosis of Rabies

The typical clinical picture of rabies is not difficult to recognize if rabies is suspected. Where there is no history of an animal bite the diagnosis may be missed, however. A definitive diagnosis of rabies depends upon isolation of virus, or demonstration of viral antigen in various tissues, or demonstration of rising antibody titers in serum or cerebrospinal fluid (CSF).

Antemortum demonstration of virus is usually attempted in facial or posterior nuchal skin, corneal smears or brain biopsy material. Virus has been recovered from throat or eye swabs, urine sediment and CSF. Postmortem diagnosis is traditionally accomplished by fluorescent rabies antibody test of brain tissue but virus can also be found in many other tissues, such as submaxillary salivary glands, lacrimal glands, muscle tissue, lung, kidney, pancreas, adrenal glands and spinal cord.

A high or rising anti-rabies antibody titer in CSF is not likely to have been produced by immunization and therefore might be presumed to be caused by infection. However, antibody titers in

either serum or CSF often do not rise until late in the illness, limiting the usefulness of antibody titer for diagnosis.

Transmission of Rabies

Rabies virus is usually transmitted by infected saliva on broken skin or mucous membrane. While most cases are bites, one reported case possibly resulted from a lick from a pet dog (2). Two cases of rabies probably resulting from laboratory aerosols (2) and two cases whose only exposure was to aerosols in caves with large bat populations have been reported (13,14). Human-to-human transmission has been documented only in four patients who received corneal transplants from donors with undiagnosed infections (15-17). Rabies virus is found in saliva, tears, respiratory secretions, urinary sediment and CSF of human patients.

Period of Communicability and Incubation

In the pathogenesis of rabies, virus appears in the brain prior to appearing in the salivary glands. Therefore, there is a relatively short period of time when an asymptomatic infected human or animal could potentially transmit infection. In dogs and cats an animal which is judged healthy five days after a bite exposure or alive after ten days is considered to have been non-infectious at the time of the bite.

The incubation period for 34 cases described since 1960 ranges from 12 days to 701 days, with a mean of 67 days. This mean incubation period is reduced to 48 days when the patient with a 701 day incubation is excluded. The exposure for the patient with incubation of 701 days almost certainly was as described. On that day he was bitten by a proven rabid dog. The first symptoms were paresthesias at the site of that bite and no interim exposure was identified (2).

Prognosis

Throughout history only two patients documented to have rabies have been known to survive, a six year old male infected by a bat in 1970 and a 32 year old male infected by laboratory aerosol in 1977(2). Only the child survived without apparent sequelae. Length of illness in the 49 human cases since 1960 who succumbed ranged from 2 to 133 days with a mean of 19 days. When the patient who survived 133 days is excluded the mean drops to 17 days.

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Table 1. Human rabies cases by 4-year period and source of exposure, United States, 1946-1983

Years	Total cases	Cases for which exposure source is identified	Source of exposure*					
			Dog	Cat	Fox	Skunk	Bat	Bobcat
1946-1949	94	48	43	5	0	0	0	0
1950-1953	81	54	47	2	3	1	1	0
1954-1957	37	29	23	1	1	3	1	0
1958-1961	18	15	7	1	3	1	3	0
1962-1965	5	5	3	0	0	1	1	0
1966-1969	5	4	2†	0	0	1	0	1
1970-1973	8	7	2†	0	0	2	3	0
1974-1977	6	5	3†	1	0	0	1	0
1978-1981	11	3	3†	0	0	0	0	0
1982-1986**	6	3	2†	0	0	0	1	0
Total	271	173	135	10	7	9	11	1

* Confirmed or most probable source
** Five year period
† These exposures occurred outside of the continental United States

RABIES DECLARATION

On February 4, 1988 the State of California Rabies Advisory Committee designated San Francisco County a rabies declared area. This decision came about because San Francisco's recently reported human rabies case was probably acquired within San Francisco. In addition, the numbers of bats and skunks brought in for laboratory examination are insufficient to assure the absence of rabies.

The Department of Public Health requests that reports of dead skunks and bats not presumed to have been killed by a vehicle be called in: 334-1111 for dead skunks, 554-2830 for dead bats. If a skunk or bat is observed to be behaving abnormally, call animal control 554-3000.

Since San Francisco is now a rabies declared area, dogs must have a valid immunization before a license can be issued, effective July 1, 1988.

Rabies declaration does not change the level of rabies infection in the county and should not affect the way in which animal bites are treated Each bite must be individually evaluated to determine whether rabies prophylaxis is indicated. Staff in the Bureau of Communicable Disease Control (554-2840) are available to answer questions regarding rabies post-exposure prophylaxis.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING January 30, 1988

DISEASE	CASES REPORTED WEEKS 1 THROUGH 4			TOTAL CASES REPORTED TO DATE		
	1986	1987	1988	1986	1987	1988
AIDS	60	94	140	60	94	140
AMEBIASIS	36	21	27	36	21	27
CAMPYLOBACTER	22	30	35	22	30	35
COCCIDIOIDOMYCOSIS			1			1
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	36	57	59	36	57	59
GIARDIASIS	32	18	21	32	18	21
GONORRHEA	374	500	475	374	500	475
HEPATITIS Type A	10	8	15	10	8	15
HEPATITIS Type B	9	17	10	9	17	10
HEPATITIS Non A-Non B	4	2	6	4	2	6
HEPATITIS Type Unspecified		1			1	
LEPROSY	3			3		
MALARIA	1	2	1	1	2	1
MEASLES						
MENINGITIS, BACTERIAL			1			1
MENINGITIS, VIRAL		1			1	
MUMPS			1			1
PERTUSSIS						
PSITTACOSIS						
RUBELLA						
SALMONELLOSIS	12	24	16	12	24	16
SHIGELLOSIS	26	29	27	26	29	27
SYPHILIS, Total	49	42	27	49	42	27
SYPHILIS, Primary & Secondary	20	23	12	20	23	12
TUBERCULOSIS (all forms)	22	27	29	22	27	29
TYPHOID FEVER		1			1	
Total deaths reported this period		757	738		757	738
Deaths from pneumonia this period		34	25		34	25

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Tuberculosis in San Francisco, 1987: Final Data

Tuberculosis continues to be a major public health problem in San Francisco. In 1987, 322 new active cases were reported, a rate of 43.8/100,000 - more than four times the incidence reported for the United States as a whole. The 1987 rate represents a 14% increase over the 1986 incidence. Many factors contribute to San Francisco's high case rate, including continuing immigration from areas of the world with high tuberculosis rates, a large homeless and indigent population, and a large minority population. The predominant factor in the increase in 1987, however, was human immunodeficiency virus (HIV) infection and AIDS (1).

The largest number of cases occurred in the 25-44 year-old age group, 133 cases or 41.3% (Table 1). This is also the age group most affected by AIDS (2).

Only two cases of active tuberculosis were reported in the 0-4 year-old age group. This is the fewest number of reported cases in this age group since 1983, which can be viewed as an encouraging development - perhaps indicative of decreased transmission of tuberculosis in the family setting. The number of cases in the 25-44 year-old age range is larger than in any year since 1980; in 1987 it exceeded 40% of cases for the first time.

Two hundred and twelve cases, 65.8% of the total in 1987 were male. The male:female ratio was 0.7:1 in the under 25 age group and 2.15:1 for those aged 25 and over. Male predominance was most marked in the non-Hispanic white and black ethnic groups (Figures 1 and 2).

Over the past decade, United States-born tuberculosis cases in San Francisco have comprised 25% to 33% of all cases; this percentage rose to 37% in 1986 and 42% in 1987. While foreign-born cases have remained fairly stable, U.S.-born cases have risen (Figure 3), another reflection of the influence of HIV infection.

In 1987, Asian/Pacific Islanders made up 47.5% of all cases, whites 27.0%, blacks 14.6%, and Hispanics 10.9%. For the first time in a decade, Asian/Pacific Islanders accounted for less than half of all cases and whites for more than one quarter.

The predominant site of tuberculosis disease in 1987 cases was pulmonary (72.7%). Of the 88 extra-pulmonary cases, 29 (33%) were lymphatic, 19 (22%) pleural, 10 (11%) miliary, 8 (9%) genito-urinary, 7 (8%) skeletal, 3 (3%) meningeal, 2 (2%) peritoneal, and 10 (11%) other.

Eighteen persons with tuberculosis in 1987 also had a non-tuberculosis related AIDS diagnosis. An additional eight patients had an extra-pulmonary site of tuberculosis and a positive HIV antibody test, now categorized as AIDS according to the revised CDC case definition (3).

Editorial Note: Epidemiologically, San Francisco is seeing the impact of HIV-induced immune suppression on tuberculosis in a number of ways: the rise in case numbers; the increased incidence in the 25-44 year-old age group; and the rise in American-born, white cases. This impact can be expected to continue over the next several years.

Continuing this trend, in the first 10 disease weeks of 1988, tuberculosis increased by 42% over the comparable time period in 1987.

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Table 1. Tuberculosis cases by age, San Francisco - 1987

age	number of cases	percent of total cases (%)
0-4	2	0.6
5-14	6	1.9
15-24	21	6.5
24-44	133	41.3
45-64	95	29.5
65+	65	20.2

Figure 1. Reported tuberculosis cases in males by age and ethnicity - San Francisco, 1987

Figure 2. Reported tuberculosis cases in females by age and ethnicity - San Francisco, 1987

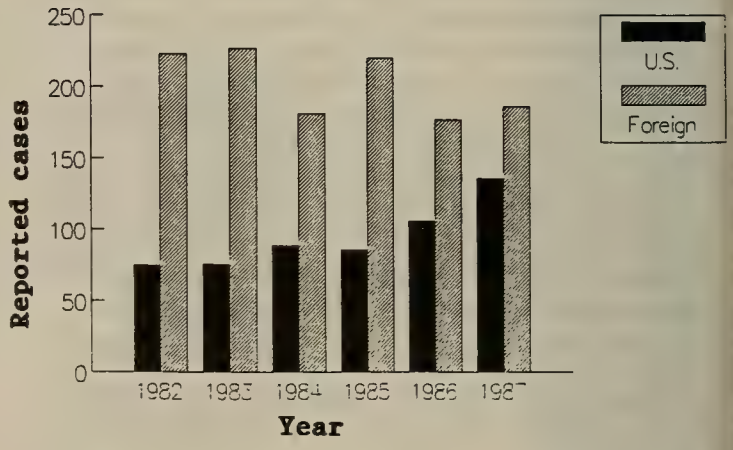

Figure 3. Reported tuberculosis cases by year of report and place of birth - San Francisco, 1982-1987

Reporting of Vibrio and Aeromonas Infections

Effective May 1, 1988 the California Department of Health Services has declared infections due to Vibrio and Aeromonas species of bacteria to be reportable conditions. Reporting is required of both physicians and laboratories.

In recent years, these aquatic bacteria have become increasingly recognized as pathogens capable of causing severe illness, especially in persons having chronic liver disease, immune deficiency or other debilitating conditions. Both genera can produce gastroenteritis, rapidly progressive cellulitis, fulminant myositis, and septicemia. The case fatality rate for persons with septicemia is typically over 50%. Vibrio infections are most often related to salt water exposures, including consumption of uncooked shellfish, while Aeromonas infections are typically related to fresh water. Both organisms have been associated with brackish water exposures. The individual species most often identified in cases of serious illness are Vibrio vulnificus, V. alginolyticus, V. parahemolyticus and Aeromonas hydrophilia. However, other species may also cause severe illness, so all species are included under this declaration. And while very few of these infections are believed to occur in California each year, their potential seriousness and the benefit of aggressive early investigation and intervention is believed to warrant making them reportable.

Reports should be made by mail to the Bureau of Communicable Disease Control, 101 Grove Street, San Francisco, CA 94102, or by telephone to 554-2830.

Streptococcal Infections

Several recent reports have noted a resurgence of acute rheumatic fever (ARF) cases in various parts of the country (1-4). Streptococcal infections and ARF are legally notifiable diseases but are gravely underreported; a local escalation could go undetected. Although a rise in total numbers of reported cases has not been observed, three cases of scarlet fever and one of rheumatic fever have been brought to the attention of the Bureau of Communicable Disease Control. The Bureau requests the cooperation of the medical community in prompt reporting of streptococcal infections and ARF when diagnosed. Cases can be reported by telephone to 554-2830.

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CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING February 27, 1988

DISEASE	CASES REPORTED WEEKS 5 THROUGH 8			TOTAL CASES REPORTED TO DATE		
	1986	1987	1988	1986	1987	1988
AIDS	85	110	135	145	204	275
AMEBIASIS	67	22	23	103	43	50
CAMPYLOBACTER	45	26	39	67	56	74
COCCIDIOIDOMYCOSIS			-			1
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	36	60	65	72	117	124
GIARDIASIS	30	24	18	62	42	39
GONORRHEA	402	434	459	776	934	934
HEPATITIS Type A	15	15	20	25	23	35
HEPATITIS Type B	9	12	7	18	29	17
HEPATITIS Non A-Non B	4	1	1	8	3	7
HEPATITIS Type Unspecified	3	-		3	1	
LEPROSY	-	2	1	3	2	1
MALARIA	3	2	3	4	4	4
MEASLES	1		5	1		5
MENINGITIS, BACTERIAL		2	-		2	1
MENINGITIS, VIRAL		-			1	
MUMPS			-			1
PERTUSSIS		1			1	
PSITTACOSIS						
RUBELLA						
SALMONELLOSIS	26	14	23	38	38	39
SHIGELLOSIS	22	32	26	48	61	53
SYPHILIS, Total	79	39	36	128	81	63
SYPHILIS, Primary & Secondary	43	12	13	63	35	25
TUBERCULOSIS (all forms)	23	16	30	45	43	59
TYPHOID FEVER		-			1	

Total deaths reported this period	706	736	1463	1474
Deaths from pneumonia this period	21	30	55	55

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Vol. 4, No. 5 May 1988

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Trends in Human Immunodeficiency Virus Antibody Testing, San Francisco, 1985-1988

Between July 1, 1985, and February 29, 1988, 37,411 patients were tested for human immunodeficiency virus (HIV) antibody in San Francisco through Department of Public Health counseling and testing programs. Of these 37,411, 29,208 (78%) were tested through the anonymous testing program based at five community clinics and 8,203 (22%) through the physician-based confidential testing program.

The numbers of patients tested at anonymous test sites initially averaged 2,982 per quarter in the first two quarters of operation, fell to 2,322 from the first quarter of 1986 through the second quarter of 1987, and rose to 3,041 in the last two quarters of 1987. Projecting from data for the first two months of 1988, the first quarter of 1988 will average approximately 3,700. In contrast, the numbers of patients tested per quarter through the confidential testing program have risen steadily from 70 in the third quarter of 1985 to approximately 1,800 during the first quarter of 1988 based on data from the first two months of the year (Figure 1).

Of the 37,411 patients tested, 8,046 (22%) have been seropositive, 29,310 (78%) seronegative, and 55 (<1%) have been of indeterminate serologic status. Overall, seroprevalence was 32% in 1985, 24% in 1986, 10% in 1987, and 21% in 1988 to date. In the anonymous testing program, overall seroprevalence is 20% and declined from 28% in 1985 to 17% in 1988, while in the confidential testing program, overall seroprevalence is 29% and declined from 35% in 1985 to 25% in 1988 (Figure 2).

Selected demographic data were available for 28,832 (77%) patients who completed at least some part of an optional questionnaire. Of the respondents, 22,433 (78%) were male, 21,850 (90%) were between 20 and 49 years of age, 23,445 (85%) were white, and 16,642 (60%) were homosexual or bisexual men (Tables 1-3).

Table 1. Clients by Age Group and Seroprevalence, HIV Antibody Counseling and Testing Programs, San Francisco, 1985-1988

	Tested	Seroprevalence
<20	262 (1%)	7%
20-29	6,906 (29%)	22%
30-39	10,339 (43%)	28%
40-49	4,605 (19%)	28%
50-59	1,443 (6%)	20%
≥60	594 (2%)	11%

Table 2. Clients by Race and Ethnicity and Seroprevalence, HIV Antibody Counseling and Testing Programs, San Francisco, 1985-1988

	Tested	Seroprevalence
White	23,445 (85%)	25%
Black	1,311 (5%)	27%
Hispanic	1,577 (6%)	25%
Asian/PI*	969 (3%)	11%
Other	417 (2%)	17%

*PI, Pacific Islander

Table 3. Clients by Transmission Category and Seroprevalence, HIV Antibody Counseling and Testing Programs, San Francisco, 1985–1988

	Tested	Seroprevalence
Homosexual/ Bisexual Men	16,642(60%)	33%
Intravenous IV Drug Users	1,183(4%)	10%
Homosexual/ Bisexual Men and (IV) Drug Users	442(2%)	67%
Hemophiliacs	12(<1%)	13%
Heterosexuals*	7,778(28%)	3%
Transfusion Recipients	498(2%)	6%
Undetermined**	1,210(4%)	4%

*Includes heterosexual partners of patients in risk groups (N=1,302) and heterosexuals with multiple partners (N=6,476).
**Includes other risk group (N=381) and no risk group (N=829).

Compared to AIDS patients reported in San Francisco during this same time period, patients participating in testing programs were less likely to be homosexual and bisexual men and more likely to be heterosexuals (Table 4).

Table 4. HIV Antibody Counseling and Testing Clients and AIDS Cases by Transmission Category, San Francisco, 1985–1988

	Counseling and Testing Clients	AIDS Cases
Homosexual/Bisexual Males	60%	85%
Intravenous(IV) Drug Users	4%	2%
Homosexual Males and IV Drug Users	2%	12%
Hemophilia/Coagulation Disorder	<1%	<1%
Heterosexuals	28%	<1%
Transfusion Recipients	2%	1%
Undetermined	4%	<1%

The proportion of patients self-identifying as homosexual or bisexual men decreased from 65% in the third quarter of 1985 to 53% through the first quarter of 1988, while the proportion of patients self-identifying as heterosexuals increased from 13% in the third quarter of 1985 to 26% in the first quarter of 1988 (Figure 3).

Seroprevalence was 24% for men and 1% for women. Self-identified homosexual and bisexual intravenous drug users had the highest seroprevalence (67%), and homosexual and bisexual men without histories of intravenous drug use the second highest (33%). Two other reported transmission categories had seroprevalences greater than 10%, intravenous drug users and hemophiliacs.

Reported by the Prevention and Education Branch, AIDS Office.

Editorial Note: Although data are mixed on the efficacy of HIV antibody counseling and testing programs in the modification of sexual behavior (1–4), counseling and testing have been recommended as an essential prevention component in the management of the AIDS epidemic (5). In San Francisco, counseling and testing programs have been well attended and have diagnosed 8,046 patients with HIV infection. This represents 27% of the estimated 29,936 HIV-infected persons in San Francisco (6).

The increasing number of patients being tested and the declining seroprevalence suggest that patients at lower risk of HIV infection have used the program in 1987 and later. This is supported by a relative increase in the proportion of patients who identified their risk of HIV as having multiple heterosexual partners or as no identified risk.

As counseling and testing patients are self-selected, seroprevalence data cannot be used to estimate seroprevalence either among the population as a whole or among individual risk groups. Nonetheless, the seroprevalence among all homosexual and bisexual men, 34%, is similar to the previously reported range of 41%–49.3% among more formal studies of homosexual and bisexual men in San Francisco (7–9). Additionally, the seroprevalence among heterosexual intravenous drug users, 10%, is similar to the reported prevalence of 12.7% among patients in methadone clinics (10).

Physicians wishing to participate in the confidential testing (CTS) program

(laboratory services and educational materials only) should contact the Department of Public Health Microbiology Laboratories at 554-2800. Patients wishing to be tested anonymously can contact the anonymous test site (ATS) program at 621-4858 for further information and appointments.

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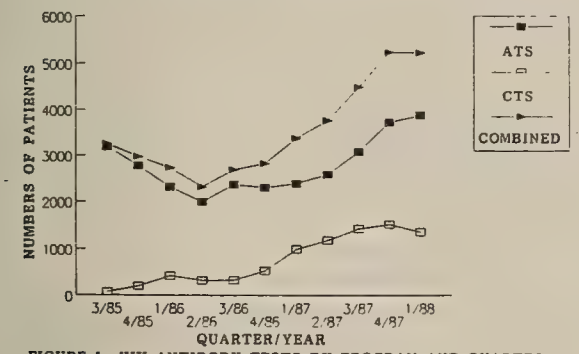

FIGURE 1. HIV ANTIBODY TESTS BY PROGRAM AND QUARTER, SAN FRANCISCO, JULY 1985 - MARCH 1988

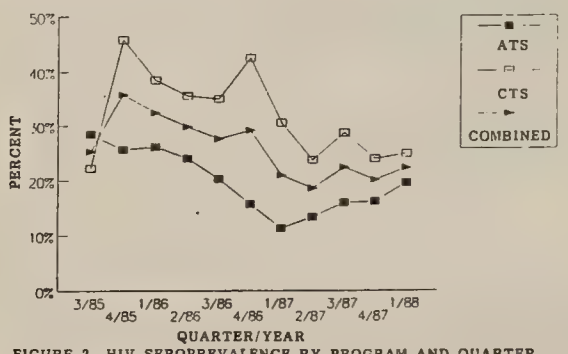

FIGURE 2. HIV SEROPREVALENCE BY PROGRAM AND QUARTER, SAN FRANCISCO, JULY 1985 - MARCH 1988

ATS: ANONYMOUS TEST SITES
CTS: CONFIDENTIAL TEST SITES

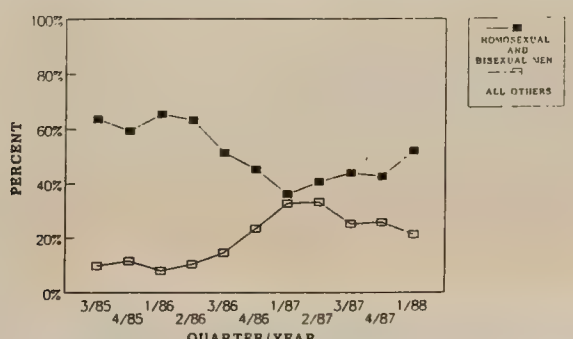

FIGURE 3. HIV ANTIBODY PROGRAM CLIENTS BY SEXUAL ORIENTATION AND QUARTER, SAN FRANCISCO, JULY 1985 - MARCH 1988

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING April 2, 1988

DISEASE	CASES REPORTED WEEKS 9 THROUGH 13			TOTAL CASES REPORTED TO DATE		
	1986	1987	1988	1986	1987	1988
AIDS	101	132	179	246	336	454
AMEBIASIS	57	42	40	160	85	90
CAMPYLOBACTER	52	43	51	119	99	125
COCCIDIOIDOMYCOSIS			-			1
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	90	61	49	162	178	173
GIARDIASIS	37	29	36	99	71	75
GONORRHEA	644	564	825	1420	1498	1759
HEPATITIS Type A	19	22	26	44	45	61
HEPATITIS Type B	25	20	8	43	49	25
HEPATITIS Non A-Non B	3	5	3	11	8	10
HEPATITIS Type Unspecified	1	-		4	1	
LEPROSY	2	2	-	5	4	1
MALARIA	5	1	-	9	5	4
MEASLES	1	3	5	1	3	5
MENINGITIS, BACTERIAL	1	1	1	1	3	2
MENINGITIS, VIRAL	2	-		2	1	
MUMPS	1		-	1		1
PERTUSSIS		1			2	
PSITTACOSIS						
RUBELLA		1			1	
SALMONELLOSIS	28	21	22	66	59	61
SHIGELLOSIS	44	39	46	92	100	99
SYPHILIS, Total	96	75	87	224	156	150
SYPHILIS, Primary & Secondary	43	25	34	106	60	59
TUBERCULOSIS (all forms)	21	25	35	66	68	94
TYPHOID FEVER	1	-	2	1	1	2
Total deaths reported this period		844	863		2307	2337
Deaths from pneumonia this period		29	30		84	85

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Vol. 4, No. 6 June 1988

Tuberculosis Mortality in the Elderly - San Francisco, 1984-1987

Case Report: A 79 year-old Hispanic male was admitted to a San Francisco hospital with a two week history of fever, chills, sweats, weakness, anorexia, and a past history of mild non-insulin dependent diabetes mellitis. Physical exam showed a temperature of 40°R, a pulse of 90 and a blood pressure of 150/86. No localizing physical findings were noted. A chest x-ray was interpreted as showing increased interstitial markings consistent with possible congestive heart failure. A PPD was placed and was non-reactive. The patient's fevers continued over the next weeks of hospitalization despite multiple antibiotics. His liver function tests worsened and his WBC dropped from his admission value of 5,800 to 2,000. A CT scan showed a gallstone. A WBC nuclear scan showed increased uptake in the lungs.

The patient died after three weeks of hospitalization. At autopsy, caseating granulomas and acid fast organisms were found in lung, liver, spleen, bone marrow, kidney, and adrenal tissue. *Mycobacterium tuberculosis* was subsequently cultured from the autopsy specimens, and from a urine culture obtained prior to death.

In the four years from 1984 through 1987, there were 38 cases of tuberculosis in San Francisco diagnosed at death. In these cases, the patient either had not sought medical care and was found dead, or, as in the case reported here, the patient was under medical care and the diagnosis of tuberculosis was not made. In all, 3.2% of the 1,180 documented cases of tuberculosis in San Francisco in this time period were reported to have died without receiving any anti-tuberculosis medication.

The elderly are significantly over-represented in this group of deaths ($p<.0001$). Of the 38 total cases reported at death, 10 were between 65 and 79 years of age, and 10 were 80 and over. In contrast, only 18 tuberculosis cases were reported at death in the under 65 year-old age group. The increased mortality among the cases in the 65 years and over group becomes more evident when compared to deaths as a percent of all cases reported in each age group. Of the 248 cases of tuberculosis reported in those 65 and older from 1984 through 1987, 8.1% were diagnosed after death, compared to 1.9% in the younger age group.

The majority of the 20 cases reported at death in the 65 year-old and older group were members of ethnic minorities: 9 were Asian/Pacific Islanders, 2 were Hispanic, and 1 was black. Only eight were non-Hispanic whites. Fourteen (70%) were foreign-born and seven (35%) of the total were female. By contrast, all but 1 of the 18 patients under age 65 (94%) were male and only 5 of the 18 (28%) were foreign-born. Whites predominate in the younger age group (Table 1); several of this group also carried a diagnosis of AIDS.

Tuberculosis has a higher incidence in the elderly. Over the past four years, the average tuberculosis incidence in San Francisco was 51.8/100,000 in the 65 and over age group, and 37.9/100,000 in the under 65 year-old group.*

Editorial Note: As with some other diseases in the elderly, the manifestations of tuberculosis can be subtle and elusive. Patients may fail to mount a fever, cough may be less pronounced, and fatigue, malaise and poor appetite may be attributed to age or concurrent illness. The PPD may be

* State of California, Department of Finance population estimates, 1985.

falsely negative in up to 20% of cases (1). Although in some of the elderly deaths, the patient had not sought medical attention, in other cases the opportunity to make the diagnosis was missed. It is important to maintain a high index of suspicion of tuberculosis in the elderly, particularly among the foreign-born.

When diagnosed and appropriately treated, tuberculosis can be cured in almost all patients. However, when treatment is delayed, disease may progress to an irreversible stage. An examination of mortality over the 18 months following the initiation of anti-tuberculosis medication shows considerable clustering in the first month of treatment. Using the same cohort of 248 patients with tuberculosis 65 years of age or older, 55 (22%) died within 18 months of onset of anti-tuberculosis therapy. Eighteen (32.7%) of the 55 died within one month of beginning therapy, 6 (11%) within one week. For patients surviving one month or longer, the mortality rate fell off rapidly, and in the subsequent 17 months, only 37 further deaths occurred despite the advanced age of the cohort.*

From 1984 through 1987* the early mortality (diagnosis at death or with less than one month of treatment) with tuberculosis in San Francisco's elderly was 7.9 per 100,000 per year, likely a low estimate as some patients who die will not be autopsied and tuberculosis that may have been present will go undetected.

*Patients diagnosed in 1987 have not had a full 18 months of follow-up.

Reference

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Table 1. Tuberculosis Cases by Race, Age and Status (Alive/Dead) at Time of Diagnosis, San Francisco, 1984-1987

	Under 65 Years			65 Years and Older		
	Total	Dead	% Dead	Total	Dead	% Dead
Non-Hispanic White	197	12	6.1%	63	8	12.7%
Black	134	2	1.5%	21	1	4.8%
Asian/Pacific Islander	465	3	0.6%	147	9	6.1%
Hispanic	122	1	0.8%	16	2	12.5%
Other	14			1		
All Groups	932	18	1.9%	248	20	8.1%

Syrup of Ipecac Contamination*

On April 29, the Food and Drug Administration (FDA) announced the nationwide recall of Humco-brand syrup of ipecac as a result of a labeling error. The manufacturer, Humco Laboratory, Inc. of Texarkana, Texas, undertook the recall of all lots of the product following a report to FDA from the Thrift Drug Company of Pittsburgh, Pennsylvania, that five of seven ipecac bottles in one of the company's drugstores had been found by the drug company to contain eucalyptus oil instead of ipecac. In addition to commercial sales, thousands of 1-ounce bottles of Humco-brand ipecac syrup were made available free to nonprofit organizations, including several poison control centers, throughout the United States during the week of May 2 as part of Poison Prevention Week campaigns.

The syrup was sold or given away as individual 1-ounce bottles or was included as part of a poison kit. At the time of the recall, 200,000 bottles were known to still be in distribution channels; another 200,000 bottles may already have reached consumers. FDA advises consumers to return all 1-ounce bottles labeled Humco ipecac.

Editorial Note: Ipecac syrup is used mostly to induce vomiting in children under the age of 4 after a poisoning or suspected poisoning. Eucalyptus oil is commonly used in minute amounts in vaporizers and nose drops, and in cough drops as flavoring, and it is considered safe for these purposes. However, pure eucalyptus oil should never be ingested because even small amounts can quickly cause convulsions and coma. As little as 1 teaspoon (5 cc) can be fatal. Parents are urged to search for 1-ounce bottles of Humco ipecac and to return them to the source from which they were distributed.

For further information, contact Gust Koustenis, Recall Officer, Office of Compliance, Center for Drug Evaluation and Research, Food and Drug Administration, 7520 Standish Place, Rockville, Maryland 20855, telephone (301) 295-8060.

* Reprinted from MMWR 37(23):374, June 17, 1988.

San Francisco Comment:

In addition to the Humco brand recall, mislabeled bottles of iodide tincture have been distributed as Brite Life syrup of ipecac. The mislabeled bottles are from lots numbered 004713 (expiration date February 1992) and 004715 (expiration date July 1992). These iodide tincture bottles contain decolorized iodine with a plastic applicator rod. Individuals with bottles of either lot number should return them to the place of purchase for exchange or refund.

Bottles of Humco brand syrup of ipecac should be returned to place of purchase, or mailed for refund or exchange to:

Humco Laboratory, Incorporated
1008 Whitaker
Texarkana, TX 75501
attention: Ipecac Returns

For further information, contact Humco Laboratory, Inc. at (800) 527-8707.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING April 30, 1988

DISEASE	CASES REPORTED WEEKS 14 THROUGH 17			TOTAL CASES REPORTED TO DATE		
	1986	1987	1988	1986	1987	1988
AIDS	74	87	132	320	423	586
AMEBIASIS	53	28	36	213	113	126
CAMPYLOBACTER	50	40	32	169	139	157
COCCIDIOIDOMYCOSIS		1	-		1	1
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	76	102	57	238	280	230
GIARDIASIS	28	12	37	127	83	112
GONORRHEA	494	403	540	1914	1901	2299
HEPATITIS Type A	5	21	25	49	66	86
HEPATITIS Type B	18	16	5	61	65	30
HEPATITIS Non A-Non B	2	2	-	13	10	10
HEPATITIS Type Unspecified	1	1		5	2	
LEPROSY	-	-	-	5	4	1
MALARIA	1	-	2	10	5	6
MEASLES	1	5	-	2	8	5
MENINGITIS, BACTERIAL	2	1	-	3	4	2
MENINGITIS, VIRAL	-	-		2	1	
MUMPS	1	1	1	2	1	2
PERTUSSIS		-	1		2	1
PSITTACOSIS						
RUBELLA	3	-		3	1	
SALMONELLOSIS	14	14	13	80	73	74
SHIGELLOSIS	36	31	20	128	131	119
SYPHILIS, Total	77	47	45	301	203	195
SYPHILIS, Primary & Secondary	35	20	13	141	80	72
TUBERCULOSIS (all forms)	30	31	32	96	99	126
TYPHOID FEVER	1	-	5	2	1	7
Total deaths reported this period		628	694		2935	3031
Deaths from pneumonia this period		24	15		108	100

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Vol. 4, No. 7 July 1988

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Timeliness of Diagnosis of Breast and Cervical Cancer in San Francisco Women, 1974–1985

BACKGROUND

Survival rates for women with early diagnosis of breast and cervical cancer are considerably better than for those with late diagnosis (1). There is also good evidence that mortality from breast cancer for women over age 50 years can be reduced with a combination of regular breast examination and mammography (2-4). For women aged 20-70 years there is also good evidence, although no randomized controlled trials have been done, that cervical cancer mortality can be reduced by regular cervical pap smears (5-7).

Despite this, the utilization of screening tests is low. A 1983 national survey found that only 45% and 14% of women aged 50-70 years had undergone annual physical examinations and mammograms respectively. Seventy-nine percent of women aged 20-39 had undergone pap smears every three years, in contrast to only 57% of women aged 40-70 years (8).

For the twelve year period between 1974 and 1985, data from the San Francisco-Oakland Metropolitan Statistical Area (SF-O MSA) cancer registry were analysed to examine differences in the timeliness of diagnosis of female breast and cervical cancer in different age and ethnic groups for San Francisco women under 70 years of age. For breast cancer, in situ and localized tumors were classified as early, and regional and remote tumors as late diagnoses. For cervical cancer, in situ tumors were classified as early and localized, regional or remote tumors as late diagnoses.

Distributions of the stage of diagnosis (early and late) by age group (<30, 30-39, 40-49, 50-59, 60-69 years) for these cancer types were calculated for white non-Hispanic, white Hispanic, black, Chinese, Japanese and Filipino women for the years 1974-1985. The upper limit of 70 years was chosen as the National Cancer Institute only recommends screening for these cancers under the age of 70 years (9).

Breast Cancer

One thousand five hundred and sixty-eight (43.5%) of the 3608 breast cancers diagnosed in women less than 70 years of age were late diagnoses (regional or remote tumors). The percentage of women with late diagnoses is similar for all age groups (range 40.9-44.4, X^2=1.18, p=0.88). However, most cases of breast cancer, 2506 (69.5%), were diagnosed in women aged 50-69 years of age and most late diagnoses, 1096 (69.1%), were in this age group.

There are ethnic differences in the percentages of late diagnoses (X^2=26.10, p=0.0001, Table 1) with black women having a higher percentage of late diagnoses (55.7%, 95% CI= 50.5%-60.9%) than the other groups combined (42.1%, 95% CI=40.4%-43.8%). Black women have a higher percentage of late diagnoses for all age groups. The 50-59 and 60-69 year-old age groups are of particular importance because 128 (64.3%) of the 199 late diagnoses in black women occur in these age groups. One thousand ninety-four (70.0%) of the 1568 late diagnoses were in white non-Hispanic women.

Cervical Cancer

Four hundred-thirty (20.6%) of the 2090 cervical cancers diagnosed in women less than 70 years old were late diagnoses (localized, regional or remote tumors). In contrast to breast cancer there is a marked increase with age in the percentage of women with

late diagnoses (X^2=387.20, p<0.0001). Only 5.1% (95% CI=3.4%-6.8%) of women under 30 years of age had late diagnoses compared with 53.3% (95% CI=46.9%-59.7%) and 51.9% (95% CI=44.8%-59.0%) for women aged 50-59 and 60-69 years respectively (Table 2).

There is also considerable variation between ethnic groups (X^2=58.90, p<0.0001) with Filipino, Japanese and Chinese women having higher percentages of late diagnoses and white Hispanic, black and white non-Hispanic women having lower percentages of late diagnoses - although the latter three groups have the highest numbers of late diagnoses (Table 3). After age standardization, Japanese and Filipino women still had higher than expected ratios of late to early diagnoses as compared with white non-Hispanic women. Two hundred and nine (48.6%) of the 430 late diagnoses were in white non-Hispanic women.

Editorial Note: The National Cancer Institute has recommended that by the year 2000, 80% of women aged 50-69 years should have annual breast examinations and mammograms (9). The higher proportion of black women with late diagnoses for breast cancer may be a reflection of poor socioeconomic status and lack of access to health care. Recent California legislation (Health and Safety Code, Chapter 550, Statutes of 1987) required Medi-Cal and some private insurance plans to provide coverage for screening mammography as well as diagnostic mammography. However, annual screening remains a financial disincentive for many because over half of California employers carry insurance plans exempted from this legislation and some women are without any health insurance coverage.

The higher percentage of late cervical cancer diagnoses among older women may be largely due to lower cervical pap smear rates in that age group (8), which in turn may be due to the erroneous perception that cervical cancer is a disease of younger women. Cervical cancer incidence rates in the SF-O SMA are actually highest in the 60 to 69 year-old age group (10). The National Cancer Institute recommends that by the year 2000, 90% of women 20-39 years of age and 80% of women 40-69 years of age should have a cervical pap smear every 3 years (9). Efforts in this regard in San Francisco should be directed particularly towards women 50 years and older and Japanese and Filipino women.

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Table 1. Stage of Diagnosis by Ethnic Group, Female Breast Cancer, San Francisco 1974–1985.

Ethnic Group	Stage		Total
	Early	Late	No. (%)
White non-Hispanic	1487 (57.6)*	1094 (42.4)	2581 (11.8)
White Hispanic	128 (58.2)	92 (41.8)	220 (6.1)
Black	158 (44.3)	199 (55.7)	357 (9.9)
Chinese	160 (61.2)	101 (38.7)	261 (7.2)
Japanese	40 (54.1)	34 (45.9)	74 (2.1)
Filipino	67 (58.3)	48 (41.7)	115 (3.2)
Total	2040 (56.5)	1568 (43.5)	3608(100.0)

* row percentage
X^2 = 26.10262, p=0.0001

Table 2. Stage of Diagnosis by Age Group, Cervical Cancer, San Francisco, 1974–1985.

Age	Stage		Total
	Early	Late	No. (%)
<30 years	599 (94.9)*	32 (5.1)	631 (30.2)
30–39 years	633 (87.1)	94 (12.9)	727 (34.8)
40–49 years	233 (72.8)	87 (27.2)	320 (15.3)
50–59 years	107 (46.7)	122 (53.3)	229 (11.0)
60–69 years	88 (48.1)	95 (51.9)	183 (8.8)
Total	1660 (79.4)	430 (20.6)	2090 (100.0)

* row percentage
X^2 = 387.2033, p<0.0001

Table 3. Stage of Diagnosis by Ethnic Group, Cervical Cancer, San Francisco, 1974–1985.

Ethnic	Stage		Total
	Early	Late	No. (%)
White non-Hispanic	997 (82.7)*	209 (17.3)	1206 (57.7)
White Hispanic	196 (75.7)	63 (24.3)	259 (12.4)
Black	307 (82.1)	67 (17.9)	374 (17.9)
Chinese	106 (69.7)	46 (30.3)	152 (7.3)
Japanese	16 (61.5)	10 (38.5)	26 (1.2)
Filipino	38 (52.1)	35 (47.9)	73 (3.5)
Total	1660 (79.4)	430 (20.6)	2090 (100.0)

* row percentage
X^2 = 58.90547, p<0.0001

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING May 28, 1988

DISEASE	CASES REPORTED WEEKS 18 THROUGH 21			TOTAL CASES REPORTED TO DATE		
	1986	1987	1988	1986	1987	1988
AIDS	89	114	124	409	537	710
AMEBIASIS	50	35	23	263	148	149
CAMPYLOBACTER	51	32	49	220	171	206
COCCIDIOIDOMYCOSIS		-	-		1	1
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	93	47	55	331	327	285
GIARDIASIS	38	17	32	165	100	144
GONORRHEA	415	502	495	2329	2403	2794
HEPATITIS Type A	11	18	25	60	84	111
HEPATITIS Type B	11	16	8	72	81	38
HEPATITIS Non A-Non B	5	-	1	18	10	11
HEPATITIS Type Unspecified	3	-	1	8	2	1
LEPROSY	1	2	-	6	6	1
MALARIA	2	1	3	12	6	9
MEASLES	-	-	-	2	8	5
MENINGITIS, BACTERIAL	2	1	1	5	5	3
MENINGITIS, VIRAL	2	-	2	4	1	2
MUMPS	-	-	1	2	1	3
PERTUSSIS	3	-	-	3	2	1
PSITTACOSIS						
RUBELLA	-	-		3	1	
SALMONELLOSIS	15	7	16	95	80	90
SHIGELLOSIS	33	33	29	161	164	148
SYPHILIS, Total	69	56	41	370	259	236
SYPHILIS, Primary & Secondary	32	20	13	173	100	85
TUBERCULOSIS (all forms)	28	30	19	124	129	145
TYPHOID FEVER	-	-	2	2	1	9
Total deaths reported this period		615	672		3550	3703
Deaths from pneumonia this period		25	11		133	111

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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

Vol. 4, No. 8 August 1988

Hospital Utilization by AIDS Patients, San Francisco

From January 1, 1984, through June 30, 1987, 6,661 hospitalizations and 77,319 days of hospitalization for AIDS and AIDS-related illnesses among San Francisco residents were reported to the West Bay Hospital Conference from 14 of the 16 acute care hospitals in San Francisco*. This corresponds to an average length of hospitalization of 11.6 days and to an average daily census of 60.5 patients. These hospitalizations included ICD-9 discharge diagnosis codes 279.19 from January 1984 through September 1986 and 042, 043, 044, and 795.8 from October 1986 onward. Of the 2,487 hospitalizations and 26,138 hospital days from October 1986 through June 1987, the period during which specific discharge diagnoses were available, 1,988 (79.9%) hospitalizations and 21,588 (82.6%) hospital days were for AIDS (Table 1).

During the 42-month study period, 3,083 AIDS cases reported to the San Francisco Department of Public Health were alive and accounted for a total of 1,021,656 patient days. Of these 1,021,656 patient days, 919,841 (90%) were among San Francisco residents diagnosed in San Francisco at one of the 14 reporting acute care hospitals or in a physician's practice or outpatient clinic. Patients diagnosed in non-participating institutions, patients residing outside San Francisco at the time of diagnosis, and San Francisco residents diagnosed outside of San Francisco were excluded from this analysis. On any given day during this period, an average of 720.3 AIDS patients meeting our inclusion criteria were alive. Thus, the average number of patients hospitalized for AIDS or AIDS-related illnesses was 8.4% of the average number of living AIDS patients.

To determine the average number of hospitalizations and hospital days from diagnosis to death for AIDS patients during this period, we calculated the number of complete intervals from diagnosis to death. We added the number of patients who were both diagnosed and died during this period and, for patients who were alive during this period but who were diagnosed before it began, or who died after it ended, the fraction of their course from diagnosis to death that occurred during the period. Two thousand two hundred fifty-nine patients were alive only during the period, and 824 patients had a fraction of their course during this period. Together, these patients accounted for 2,327.8 complete intervals from diagnosis to death. Given the 6,661 hospitalizations and 77,319 hospital days during this period and assuming that 79.9% of these hospitalizations and 82.6% of these hospital days were for AIDS, AIDS patients had an average of 2.29 hospitalizations and 27.44 hospital days from diagnosis to death.

The percentage of AIDS patients hospitalized per day during this period declined from 9.5% in 1984 to 7.1% in the first six months of 1987 (Table 2). This corresponds to an increase in the average number of hospitalizations from 2.75 to 3.18 but to a decrease in the average number of hospital days from 34.77 to 30.98 per patient from diagnosis to death (Table 3).

Reported by LH Baskett, FM Strychaz, West Bay Hospital Conference; Health Resources and Services, Surveillance and Investigations, and Research Branches, AIDS Office.

Editorial Note: Previous studies have documented high costs of AIDS associated primarily with inpatient hospitalization (1-11) and have suggested that the major reason for less costly care for AIDS patients in San Francisco, as opposed to New York

*Veterans Administration Medical Center and Letterman Army Medical Center do not participate in this system.

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City, is fewer days of inpatient hospitalization (1,12,13). This study documents hospital utilization for AIDS and other manifestations of HIV infection by San Francisco residents from 1984 to mid-1987 and indicates an overall trend to less frequent hospitalization during this period. Whether this percentage will decrease further is unknown.

The numbers of newly diagnosed AIDS patients are continuing to increase in San Francisco (14) and their survival is lengthening (15). However, even if the proportion of living AIDS patients hospitalized continues to decline, the greater number of living patients will more than likely counterbalance the trend to less frequent hospitalization and lead to the need for more hospital beds overall. For planning purposes, the San Francisco Department of Public Health currently projects that on any given day the number of acute care beds required for AIDS, ARC, and other manifestations of HIV infection will correspond to 7.1% of living AIDS patients (16). Nonetheless, to further refine these projections, continued surveillance of utilization of acute care beds is necessary.

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Table 1. Distributions of Hospitalizations and Hospital Days for AIDS Patients by ICD-9 Diagnostic Code, San Francisco, October 1986-June 1987*

Category	Code	Hospitalizations		Hospital Days	
		N	%	N	%
HIV infection with specified conditions (AIDS)	042	1988	79.9	21588	82.6
HIV infection/other specified conditions (ARC)	043	309	12.4	2290	8.8
Other HIV infection (excludes AIDS and ARC)	044	10	.4	230	.9
Positive serological or viral culture finding for HIV	795.8	50	2.0	299	1.1
Deficiency of cell-mediated immunity	279.19	17	.1	337	1.2
Other		113	4.5	1394	5.3

* by hierarchical ICD-9 diagnostic code

Table 2. AIDS Patient Days and Hospital Days by Year, San Francisco, 1984-1987

Year	Patient Days		Hospital Days		Percent
	Total	Daily	Total	Daily	Hospitalized
1984	123,288	336.9	11,756	32.2	9.5
1985	230,274	630.9	19,873	54.4	8.6
1986	342,435	938.2	29,737	81.5	8.7
1987*	223,844	1236.7	15,953	87.7	7.1

* first six months only

Table 3. Average Number of Hospitalizations and Hospital Days from Diagnosis to Death for AIDS Patients by Year, San Francisco, 1984-1987

Year	Complete Intervals	Hospitalizations		Hospital Days	
		Total	Per Patient*	Total	Per Patient*
1984	338.1	932	2.75	11,756	34.77
1985	609.9	1,610	2.64	19,873	32.58
1986	864.8	2,483	2.87	29,737	34.39
1987**	515.0	1,636	3.18	15,953	30.98

*from diagnosis to death
**first six months only

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING July 2, 1988

DISEASE	CASES REPORTED WEEKS 22 THROUGH 26			TOTAL CASES REPORTED TO DATE		
	1986	1987	1988	1986	1987	1988
AIDS	123	95	144	532	632	854
AMEBIASIS	48	49	35	311	197	184
CAMPYLOBACTER	72	40	57	292	211	263
COCCIDIOIDOMYCOSIS		-	1		1	2
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	132	77	64	463	404	349
GIARDIASIS	44	29	43	209	129	187
GONORRHEA	519	581	577	2848	2984	3371
HEPATITIS Type A	9	14	38	69	98	149
HEPATITIS Type B	16	18	10	88	99	48
HEPATITIS Non A-Non B	4	1	2	22	11	13
HEPATITIS Type Unspecified	2	1	-	10	3	1
LEPROSY	-	2	-	6	8	1
MALARIA	-	2	-	12	8	9
MEASLES	-	2	-	2	10	5
MENINGITIS, BACTERIAL	3	2	3	8	7	6
MENINGITIS, VIRAL	3	-	-	7	1	2
MUMPS	2	1	-	4	2	3
PERTUSSIS	1	1	-	4	3	1
PSITTACOSIS						
RUBELLA	1	3		4	4	
SALMONELLOSIS	26	23	17	121	103	107
SHIGELLOSIS	53	43	47	214	207	195
SYPHILIS, Total	72	99	80	442	358	316
SYPHILIS, Primary & Secondary	35	25	38	208	125	123
TUBERCULOSIS (all forms)	16	34	29	142	163	174
TYPHOID FEVER	2	-	1	4	1	10
Total deaths reported this period		806	812		4356	4515
Deaths from pneumonia this period		16	24		149	135

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Vol. 4, No. 9 September 1988

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Update: Acquired Immunodeficiency Syndrome - The Tenderloin, San Francisco

As of July 31, 1988, 357 AIDS cases had been reported to the San Francisco Department of Public Health from the Tenderloin, a high density, low income neighborhood on the southwestern edge of downtown San Francisco, corresponding to census tracts 120-125. These 357 cases represent 7.7% of the 4,629 cases reported among San Francisco residents. The incidence of AIDS in the Tenderloin (1,753 cases per 100,000 population) is significantly higher than in the remainder of San Francisco, 649 cases per 100,000 (rate ratio [RR]=2.7, p<.001).

The epidemiology of AIDS in the Tenderloin differs from the epidemiology of AIDS in the rest of the city. AIDS patients from the Tenderloin are more likely to be heterosexual intravenous drug users (RR=4.0, p<.001) and homosexual and bisexual intravenous drug users (RR=1.7, p<.001) than patients from other parts of San Francisco (Table 1). Cases among all heterosexuals (25/357 [7.0%] in the Tenderloin vs. 111/4269 [2.6%] outside the Tenderloin, RR=2.7, p<.001) and women (10/357 [2.8%] vs. 29/4272 [0.7%], RR=4.1, p<.001) were more common in the Tenderloin as well.

AIDS cases among non-whites occurred more frequently in the Tenderloin (RR=1.4, p=.007). Among non-whites, Latinos were the only group of AIDS patients residing significantly more frequently in the Tenderloin than in other neighborhoods (Table 2).

Reported by: Surveillance and Investigations Branch, AIDS Office.

Editorial Note: Previous studies have demonstrated that AIDS cases are not evenly distributed in San Francisco (1). Given the disproportionate representation of intravenous drug users, women, and minorities among Tenderloin AIDS cases, this neighborhood is a likely focus for rapid intravenous-drug-use-associated transmission and secondary sexual and perinatal transmission (2-4). Additionally, with a disproportionate number of intravenous-drug-use-associated AIDS cases, this neighborhood may also represent a locus of continued human immunodeficiency virus (HIV) transmission among homosexual and bisexual intravenous drug-using men (5,6). Populations also at risk for HIV infection in the Tenderloin are prostitutes, non-parenteral substance abusers, and the homeless (4).

To address both the issues of prevention of HIV infection and services for residents with symptomatic HIV infection, outreach programs targeted to out-of-treatment intravenous drug users, the sexual partners of intravenous drug users, and prostitutes are currently operating in the Tenderloin (7), and expansion of drug treatment services is planned. Nonetheless, strategies which address all populations at risk and a flexible neighborhood-based service delivery system, including housing, are needed (4).

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Table 1. AIDS Cases by Transmission Category and Neighborhood, San Francisco, 1980–July 31, 1988*

	Tenderloin		Other Neighborhoods		
	N	(%)	N	(%)	RR
Homosexual and Bisexual Men	261	(73)	3668	(86)	0.9
Intravenous (IV) Drug Users	18	(5)	54	(1)	4.0
Homosexual and Bisexual Men and IV Drug Users	71	(20)	490	(11)	1.7
Heterosexual Cases	4	(1)	17	(<1)	2.8

RR, rate ratio
* Excludes 2 hemophiliac, 28 transfusion-associated, 3 pediatric, and 13 no identified risk cases (3 from the Tenderloin and 43 from other parts of the city).

Table 2. AIDS Cases by Race and Ethnicity and Neighborhood, San Francisco, 1980–July 31, 1988*

	Tenderloin		Other Neighborhoods			
	Cases	(%)	Cases	(%)	RR	p
White	278	78.0	3614	84.7	0.9	<.01
Black	28	7.9	275	6.4	1.2	NS
Latino	42	11.8	309	7.2	1.6	<.01
Asian/Pacific Islander	8	2.2	71	1.7	1.3	NS

RR, rate ratio, NS, not significant
* San Francisco residents only. Excludes 4 Native American patients.

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REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING July 30, 1988

DISEASE	CASES REPORTED WEEKS 27 THROUGH 30			TOTAL CASES REPORTED TO DATE		
	1986	1987	1988	1986	1987	1988
AIDS	80	121	106	612	753	960
AMEBIASIS	45	29	21	356	226	205
CAMPYLOBACTER	43	21	43	335	232	306
COCCIDIOIDOMYCOSIS	1	1	2	1	2	4
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	64	56	55	527	460	404
GIARDIASIS	21	16	30	230	145	217
GONORRHEA	506	379	367	3354	3363	3783
HEPATITIS Type A	12	6	15	81	104	164
HEPATITIS Type B	13	5	7	101	104	55
HEPATITIS Non A-Non B	4	1	–	26	12	13
HEPATITIS Type Unspecified	1	–	1	11	3	2
LEPROSY	2	–	–	8	8	1
MALARIA	1	–	1	13	8	10
MEASLES	–	2	–	2	12	5
MENINGITIS, BACTERIAL	2	2	–	10	9	6
MENINGITIS, VIRAL	–	–	2	7	1	4
MUMPS	–	4	–	4	6	3
PERTUSSIS	–	–	–	4	3	1
PSITTACOSIS	1			1		
RUBELLA	–	–		4	4	
SALMONELLOSIS	16	19	12	137	122	119
SHIGELLOSIS	31	25	26	245	232	221
SYPHILIS, Total	53	70	24	495	428	340
SYPHILIS, Primary & Secondary	25	22	7	233	147	130
TUBERCULOSIS (all forms)	21	23	24	163	186	198
TYPHOID FEVER	–	–	–	4	1	10
Total deaths reported this period		577	634		4933	5149
Deaths from pneumonia this period		20	14		169	149

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Vol. 4, No. 10 October 1988

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Active Laboratory-Based Surveillance and Related Case-Control Studies

Beginning in October the San Francisco County Health Department will be participating in an active laboratory-based surveillance project funded by the Centers for Disease Control (CDC). San Francisco will be joining with Alameda and Contra Costa counties to form one of four sites selected for this project - the other three sites will be metropolitan Atlanta and the states of Oklahoma and Tennessee.

The intent of the surveillance portion of the project is to identify in a timely manner all microbiologically-confirmed cases of the following bacterial infections in residents of the participating counties:

1. Listeriosis (invasive disease due to *Listeria monocytogenes*)
2. Meningococcal disease (invasive disease due to *Neisseria meningitidis*)
3. *H. influenzae* disease (invasive disease due to *Haemophilus influenzae*)
4. Group B streptococcal infections (invasive disease due to group B streptococci)
5. Salmonellosis (infections due to salmonella)
6. Campylobacteriosis (infections due to *Campylobacter jejuni* and *Campylobacter fetus*)

Using funds provided by the CDC, personnel will be hired to develop and maintain the laboratory-based surveillance system, which will be used to establish incidence rates for the infections under study. In addition, selected patients with listeriosis, *H. influenzae* disease, salmonellosis, and campylobacteriosis found through the surveillance system will be invited to participate in four separate case-control studies, which are described in some detail below.

A. *H. influenzae* case-control study

The purpose of this study is to estimate the clinical efficacy of the newly licensed *H. influenzae* diphtheria toxoid conjugate vaccine. Several studies of the older *H. influenzae* polysaccharide vaccine demonstrated an efficacy in the range of 41-88% (1-3), although one study found a vaccine efficacy of -69%, i.e., that vaccinated children were at increased risk of infection (4). Because the efficacy of the polysaccharide vaccine was judged to be inadequate, especially in children <18 months of age, a conjugate vaccine with enhanced immunogenicity was developed and licensed in December 1987. In January 1988 the Immunization Practices Advisory Committee (ACIP) recommended use of this vaccine for all children at 18 months of age (5). Because the clinical protection offered by this new vaccine is largely untested, it is important to determine its efficacy using case-control methodology.

Patients eligible for enrollment in this study will be children with cultured-confirmed invasive infections (e.g., meningitis, bacteremia, cellulitis, pericarditis, etc.) due to *H. influenzae* B who are between the ages of 18.5 and 60 months at the time of onset of the illness. Three age-matched friend or day-care center controls will be sought for each case. All interviews of the parent(s) of cases and controls will be conducted over the telephone after verbal informed consent has been obtained. Vaccination status of cases and controls will be confirmed with each child's health care provider.

B. Listeriosis case-control study

The purpose of this study is to determine risk factors and exposures that lead to infection with *L. monocytogenes*, which is a cause of life-threatening central nervous system and blood stream infections in immunocompromised individuals and of fetal loss or severe illness in the newborn when pregnant women are

infected. *L. monocytogenes* is ubiquitous in nature, but the major source of infection for people appears to be contaminated foods. In recent years, outbreaks of listeriosis have been traced to cole slaw, pasteurized milk and soft cheeses (6-8). A recent case-control study of sporadic cases has suggested that undercooked chicken and uncooked hot dogs may also be sources of human infection, and microbiologic studies of various foods have shown that many foods of animal origin are frequently contaminated with *L. monocytogenes*. However, the source of infection remains unknown for most sporadic cases of listeriosis. Thus, a new case-control study of sporadic listeriosis is needed in order to evaluate additional potential dietary risk factors and form the basis for improved dietary recommendations for immunosuppressed patients and pregnant women.

Patients eligible for enrollment in this study will be all individuals from whom *L. monocytogenes* is isolated from blood, cerebrospinal fluid, or other usually sterile sites, including the placenta in conjunction with fetal death or illness. Four sex-, age-, and underlying illness-matched controls will be sought for each case. All interviews of cases and controls will be conducted over the telephone after verbal informed consent has been obtained. If the study subject is unable to answer questions due to death, disability, or young age, the spouse, parent, family member, or caretaker most familiar with the subject's eating and cooking habits will be interviewed.

C. Salmonellosis case-control study

The purpose of this study is to determine risk factors and exposures that predispose to infection with salmonella among patients with AIDS or AIDS-related conditions (ARC). Previous studies have demonstrated that patients with AIDS are at greatly increased risk of infection with salmonella and that such infections are both more difficult to treat and more likely to result in severe illness and/or death in this patient population (9-11). Although dietary recommendations for patients with AIDS are available, based on studies of salmonellosis in other patient populations, it would appear that these recommendations are not being communicated, not being followed, or are not adequate to prevent infection in AIDS patients. Based on the distribution of salmonella serotypes recovered from patients with AIDS and on anecdotal reports of a high frequency of use of various non prescription medications, food additives, and other natural products, it appears that patients with AIDS and ARC are exposing themselves to a wide variety of sources of salmonella. In order to guide the development of more effective dietary recommendations and prevention strategies, more information is needed concerning the source(s) of salmonella infections among patients with AIDS and ARC.

Patients eligible for enrollment in this study will be all men between the ages of 20 and 59 with AIDS or ARC who have culture-confirmed salmonellosis. Three sex-, age-, and underlying illness-matched controls will be sought for each case. All interviews of cases and controls will be conducted over the telphone after verbal informed consent has been obtained. Additional information concerning subjects' underlying immunologic condition will be sought from their medical records after written informed consent has been obtained.

D. Campylobacteriosis case-control study

The purpose, justification, eligibility requirements, and methods of this study are identical to those described for the salmonellosis case-control study. Thus, this study will be limited to men 20-59 years of age with AIDS or ARC who develop culture-confirmed campylobacteriosis, and controls will be sex-, age-, and underlying illness-matched.

While the laboratory-based surveillance system will provide an important means of identifying the infections under study, health care providers should continue to report promptly all cases of diseases or conditions whose reporting is mandated by state regulation, including listeriosis, meningococcal disease, *H. influenzae* disease, and salmonellosis, to the health department. In addition, any health care provider caring for a patient who may be eligible for inclusion in one of the four case-control studies described above is

urged to call Gretchen Anderson at 554-2838 or Dr. Arthur Reingold at 642-0327 for further information. Your assistance in identifying and enrolling potential study participants is both necessary to the successful completion of these studies and much appreciated.

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Guidelines for 1988-89 Influenza Vaccine Use*

Vaccination of high-risk persons each year before the influenza season is the single most important measure for reducing the impact of influenza. The target groups for immunization include:

A. Groups at greatest medical risk of influenza-related complications.

1) Adults and children with chronic disorders of the cardiovascular or pulmonary systems requiring regular medical followup or hospitalization during the preceding year.
2) Residents of nursing homes and other chronic care facilities housing patients of any age with chronic medical conditions.

B. Groups at moderate medical risk of influenza-related complications. After the above two target groups have been vaccinated, programs should make vaccine readily available to persons at moderately increased risk of serious illness compared with the general population. These include:

1) Otherwise healthy individuals 55 years of age and older.
2) Adults and children who have required regular medical followup or hospitalization during the preceding year because of chronic metabolic diseases (including diabetes mellitus), renal dysfunction, anemia, or immunosuppression.
3) Children and teenagers (six months through 18 years of age) who are receiving long-term aspirin therapy and, therefore, may be at risk of developing Reye syndrome following influenza infection.

C. Groups potentially capable of nosocomial transmission of influenza to high-risk persons.

1) Physicians, nurses, and other personnel having extensive contact with high-risk patients (e.g., primary-care and certain specialty clinicians and staff of chronic-care facilities and intensive-care units, particularly neonatal intensive-care units.
2) Providers of care to high-risk persons in the home setting (e.g., visiting nurses, volunteer workers) as well as all household members, whether or not they provide care.

Immunodeficient Persons: Because influenza vaccine contains only non-infectious viruses it cannot cause influenza. However, the ability of immunodeficient persons to respond by developing antibodies is unknown and probably varies from individual to individual.

San Francisco Comment:

The kickoff for the annual flu campaign will be held at the Aquatic Park Branch of the San Francisco Senior Centers on October 27. Immunizations will be available at the five Department of Public Health District Health Centers on the mornings of November 8, 10, 15 & 17 and at the OMI Pilgrim Community Center on November 9. Final clinics will be at Health Center #5 on Saturday, December 3 and at 50 Ivy Street November 21 through December 30. The vaccine is made available to clinics and physicians from the Bureau of Communicable Disease Control, Department of Public Health.

The 1988-89 vaccine contains three strains: A/Taiwan/1/86(H1N1), A/Sichuan/2/87(H3N2), and B/Victoria/2/87. One of the three strains is expected to be prevalent in the San Francisco area beginning in late November or early December. Determination of outbreaks of influenza depends on rapid notification by providers. Any unusual incidence of respiratory infection should be reported immediately by telephone to the Bureau of Communicable Disease Control at 554-2830. Arrangements will be made for the collection of appropriate specimens, which will facilitate efforts to document the presence of influenza in the area.

* Adapted from MMWR 1988 June 17;37(23):361-373.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING Sept. 3, 1988

DISEASE	CASES REPORTED WEEKS 31 THROUGH 35			TOTAL CASES REPORTED TO DATE		
	1986	1987	1988	1986	1987	1988
AIDS	120	141	135	732	894	1095
AMEBIASIS	57	54	46	413	280	251
CAMPYLOBACTER	128	39	62	463	271	368
COCCIDIOIDOMYCOSIS	1	-	-	2	2	4
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	67	69	61	594	529	465
GIARDIASIS	36	35	44	266	180	261
GONORRHEA	592	811	687	3946	4174	4425
HEPATITIS Type A	8	20	33	89	124	197
HEPATITIS Type B	10	23	5	111	127	60
HEPATITIS Non A-Non B	2	2	-	28	14	13
HEPATITIS Type Unspecified	1	1	-	12	4	2
LEPROSY	-	-	-	8	8	1
MALARIA	6	4	2	19	12	12
MEASLES	-	-	-	2	12	5
MENINGITIS, BACTERIAL	1	1	-	11	10	6
MENINGITIS, VIRAL	1	-	4	8	1	8
MUMPS	-	-	-	4	6	3
PERTUSSIS	-	-	1	4	3	2
PSITTACOSIS	-	1	1	1	1	1
RUBELLA	1	-		5	4	
SALMONELLOSIS	25	18	20	162	140	139
SHIGELLOSIS	36	50	64	281	282	285
SYPHILIS, Total	93	67	46	588	495	386
SYPHILIS, Primary & Secondary	36	22	16	269	169	146
TUBERCULOSIS (all forms)	22	35	22	185	221	220
TYPHOID FEVER	1	1	2	5	2	12
Total deaths reported this period		728	781		5661	5930
Deaths from pneumonia this period		10	27		179	176

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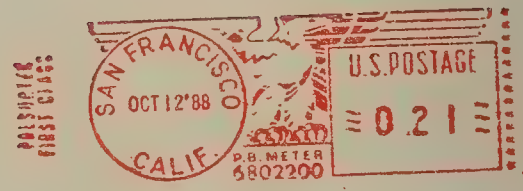

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Update: Natural History of HIV Infection in the San Francisco City Clinic Cohort

Description of cohort. The San Francisco City Clinic Cohort was originally recruited between 1978 and 1980 from San Francisco City Clinic (SFCC) for studies of the prevalence and incidence of sexually transmitted hepatitis B and, ultimately, of the efficacy of the hepatitis B vaccine. As part of these studies, serum samples were collected from all cohort members and tested for serologic markers of hepatitis B. A random sample of hepatitis B seronegative men was then recruited into a vaccine trial with multiple serum samples collected from each participant. All unused sera, both from initial screening and from the vaccine trial, were frozen and stored.

In October 1983, epidemiologic studies of the acquired immunodeficiency syndrome (AIDS) were initiated in this cohort. Each cohort member who agreed to participate in AIDS follow-up studies was interviewed regarding behavioral and environmental risk factors for human immunodeficiency virus (HIV) infection and AIDS, examined by a physician, and, after the development of the HIV antibody test, tested for antibodies to HIV. With the subject's consent, all stored sera from the earlier hepatitis studies were also tested for HIV antibodies.

Prevalence and incidence of HIV infection. Two different sample groups from this cohort have been analyzed with respect to the prevalence and incidence of HIV infection: a 20% weighted random sample of the entire cohort (1,555 men) and 359 men from the cohort who participated in hepatitis B vaccine trials.

Using modelling techniques, the cumulative prevalence of HIV infection from the random sample group was estimated to be 6% in 1978, 19% in 1979, 33% in 1980, 65% in 1984, 70% in 1985, and 73% in 1986 (1). As discussed below, since subjects were originally recruited from a sexually transmitted disease clinic, the prevalence of HIV infection among these men may be higher than the rate among homosexual and bisexual men in the general community.

The cumulative prevalence of HIV infection among the men who participated in the hepatitis B vaccine trials was <1% in 1978, 3% in 1979, 14% in 1980, 28% in 1981, 42% in 1982, 46% in 1983, 48% in 1985, 49% in 1986, and 49% in 1987 (2). The annual incidence of new infections with HIV in this group was <1% in 1978, 3% in 1979, 12% in 1980, 15% in 1981, 19% in 1982, 7% in 1983, 3% in 1984, <1% in 1985, 2% in 1986, and 0% in 1987 (2). The low incidence rates of HIV infection in our cohort in recent years parallels a similar decline in high risk sexual behaviors such as receptive anal intercourse with ejaculation (2,3).

Progression of HIV infection. The time period between infection with HIV and the onset of AIDS is variable. Natural history studies have suggested that the likelihood of progression to AIDS or AIDS-related conditions is low within the first few years after developing antibody to HIV and that this risk increases with a longer duration of infection. Data from the SFCC Cohort study, using Kaplan-Meier survival analysis for 184 men with known seroconversion dates (Figure 1), indicate that 2% would develop AIDS within 2 years of infection with HIV, 10% within 4 years, 23% within 6 years, 37% within 8 years, and 48% (95% confidence interval, 31%-65%) within 10 years (4). Separate Kaplan-Meier analyses examining the random sample group and the vaccine trial group showed no statistically significant difference in rates of progression between the two groups. Comparative studies of progression to AIDS done between a cohort of male hemophiliacs, whose date of infection could be well approximated, and the men from the San Francisco vaccine trial group showed no difference in progression rates by duration of infection (5).

Clinical manifestations of HIV disease progression. In addition to AIDS, there are a variety of signs and symptoms of illness which may be seen in HIV-infected individuals. Among 90 men from the SFCC Cohort who were known to have developed antibody to HIV prior to January 1981 and who were followed for an average of 88 months after seroconversion (Table 1), 34% developed AIDS, 16% developed other clinically significant HIV-related symptoms (including persistent fever, diarrhea, weight loss, oral candidiasis, or hairy leukoplakia), 27% developed asymptomatic generalized lymphadenopathy, and 23% had no signs or symptoms of HIV infection (4). Additional findings from the SFCC Cohort revealed that neurologic and neuropsychologic complications are associated with AIDS-related conditions but long-term asymptomatic men do not have more neurologic symptoms or neuropsychologic abnormalities than seronegative controls (6).

Laboratory predictors of HIV disease progression. In the SFCC Cohort, immunologic data on absolute T4-helper cell count showed an association with clinical status (4). People with low T4 cell counts were more likely to exhibit clinical manifestations of HIV infection (such as AIDS and AIDS-related conditions) than those people with higher T4 cell counts. However, due to great variability in T4 cell counts, T4 count was not statistically associated with duration of infection; some men infected for eight or more years still remained clinically and immunologically normal (4).

COFACTORS

Cofactors for acquisition of HIV infection. Number of sexual partners and receptive anal intercourse continue to be the practices most associated with an increased likelihood of HIV infection (7,8). However, this does not imply that other sexual practices, such as insertive anal intercourse, are without risk. Several recent findings also indicate that the presence of genital lesions and genital ulcers may increase a person's risk of acquiring sexually transmitted HIV infection (9,10). One analysis of SFCC Cohort data for antibodies to herpes simplex type 1 (HSV-1), herpes simplex type 2 (HSV-2), cytomegalovirus (CMV), and Epstein-Barr virus (EBV) compared 62 men who seroconverted for HIV antibody with 61 men who remained HIV-antibody negative (11). Men who developed antibodies to HIV were more likely to have had antibodies to HSV-2 (but not HSV-1, CMV or EBV), indicating that HSV-2 infection had preceded HIV infection.

Cofactors for HIV disease progression. The most consistent cofactor for disease progression which has been demonstrated to date is duration of HIV infection (4). Studies of cofactors for disease progression in the SFCC Cohort have shown that when duration of infection is controlled for, history of certain drug use (hallucinogens) and certain sexually transmitted diseases (gonorrhea) were associated with increased progression to AIDS (12). These conclusions must be regarded as preliminary and with some caution. Specifically, it is unknown whether these variables are true cofactors or markers of some other variable affecting the likelihood of disease progression. Additional study is required to distinguish which, if any, of these statistically significant variables are true biologic cofactors for progression. Age at seroconversion, race, history of needle sharing, and frequency of receptive anal intercourse following seroconversion were not associated with disease progression (12).

An analysis examining Kaposi's sarcoma (KS) in the SFCC Cohort concluded that the decline in the proportion of KS among AIDS cases was not due to a shorter incubation time (13). Although cofactors for KS may exist, the data did not support a role for previously hypothesized environmental and infectious agents, such as nitrite inhalants.

Reported by the Research Branch, AIDS Office.

Editorial Note: It has been seven years since the first cases of AIDS were reported among homosexual men in California (14) and much has since been learned about the epidemiology and natural history of HIV infection. In San Francisco, natural history studies of gay and bisexual men have greatly expanded our knowledge of the epidemic. San Francisco has the highest number of AIDS

cases per capita of any city in the United States, with 5,457 cases reported through September 1988. AIDS in San Francisco continues to be the leading cause of death for men 20 to 49 years old and ranks first in estimated years of potential life lost before age 65. Projections for the number of AIDS cases in San Francisco range from 12,349 to 17,022 by mid 1993 (15).

It is estimated that between 50,000 and 60,000 men residing in San Francisco are gay or bisexual (15). An estimate of the current prevalence of HIV infection among gay and bisexual men based on a random household sample is approximately 50% (15,16). In addition to data from the SFCC Cohort, data from at least two other studies of homosexual and bisexual men in San Francisco also suggest that most of the HIV transmission occurred between 1979 and 1983; since then, the rate of acquisition of new HIV infection has been extremely low (16,17). A decline in incidence rates of gonococcal proctitis among men in San Francisco has also been observed, paralleling the decline in incidence of HIV infection (18).

Other cohort studies of homosexual and bisexual men in San Francisco have found that T4 lymphocyte counts were depressed in HIV-infected men compared to uninfected men, and that T4 counts among HIV-infected men declined over time and were predictive of adverse clinical outcome including AIDS (19). Oral candidiasis, hairy leukoplakia, and systemic symptoms such as chronic diarrhea and night sweats, also predicted progression to AIDS. P-24 antigenemia and elevated beta-2 microglobulin levels were also independent predictors of progression to AIDS (19).

There is increasing evidence that in the absence of any therapy or other intervention, the proportion of those infected with HIV who will develop AIDS will continue to increase over time. It is not possible to say, on the basis of observed data, whether everyone who is infected with HIV will develop AIDS. In a study of the natural history of HIV infection among men in the SFCC Cohort, some individuals have remained asymptomatic after nine years of infection (4). There are, however, some mathematical models that predict 65%-100% of those infected with HIV will develop AIDS over many years of infection and without the benefit of treatment (15,20, 21).

Continued follow-up of the SFCC Cohort will provide additional information regarding both the natural history of HIV infection and, in time, the effect of antiviral therapy on the natural history of HIV infection in homosexual and bisexual men.

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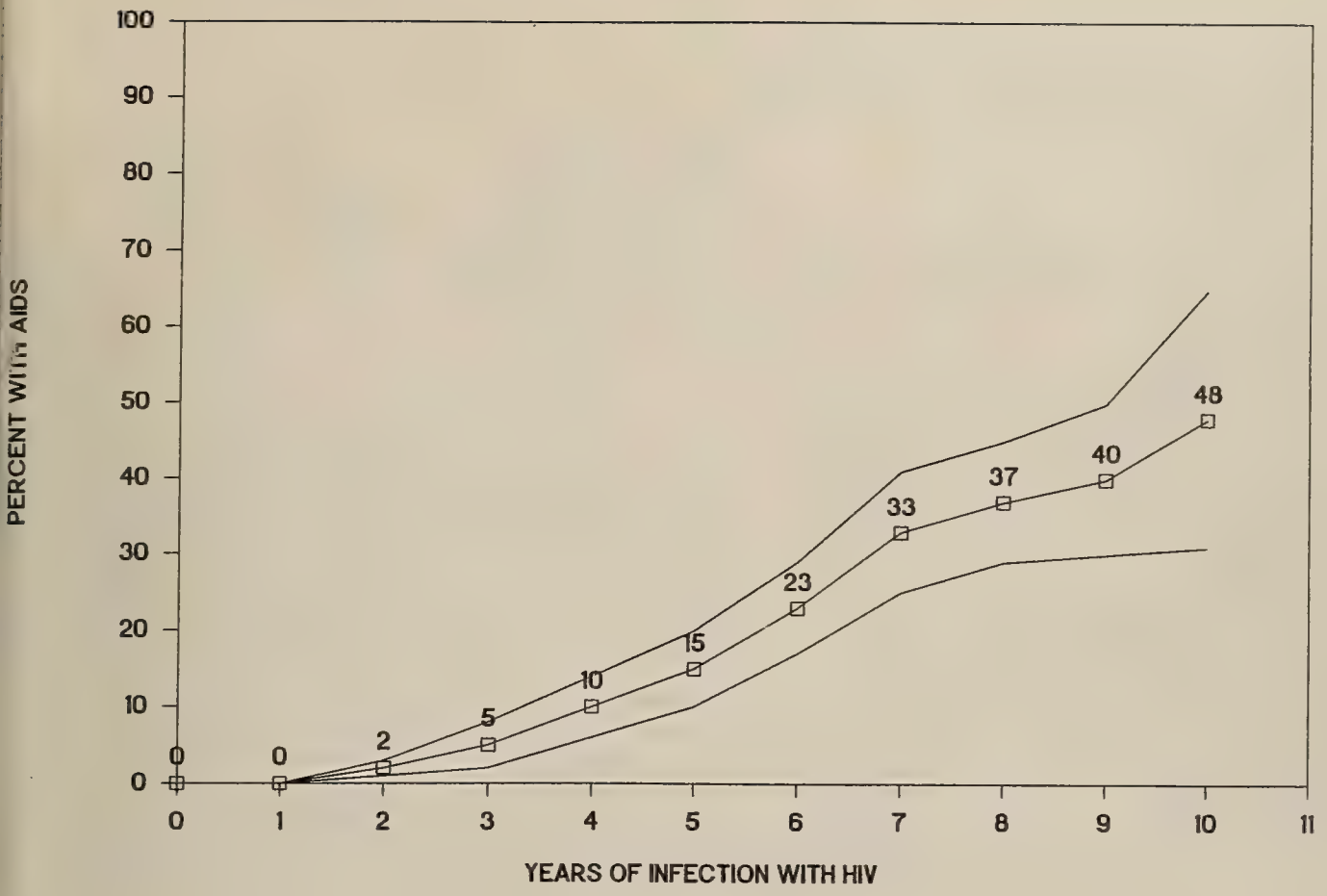

Figure 1. Cumulative proportion developing AIDS by duration of HIV infection, San Francisco City Clinic Cohort Study

Table 1. San Francisco City Clinic Cohort Study - clinical outcomes by estimated year of seroconversion

	1977–1980 N	(%)	1981–1983 N	(%)	1984–1986 N	(%)
AIDS	31	(34%)	23	(31%)	2	(12%)
AIDS-Related Conditions (Oral candidiasis, hairy leukoplakia, idiopathic fever, diarrhea, or weight loss)	14	(16%)	12	(16%)	3	(18%)
Generalized Lymphadenopathy (Lymph nodes ≥1 cm at ≥2 extrainguinal sites, only one of which can be cervical)	24	(27%)	17	(23%)	5	(29%)
No signs or symptoms (Absence of the above)	21	(23%)	21	(29%)	7	(41%)
Total	90	(100%)	73	(100%)	17	(100%)
Mean Follow-up	88 months		50 months		31 months	

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING October 1, 1988

DISEASE	CASES REPORTED WEEKS 36 THROUGH 39			TOTAL CASES REPORTED TO DATE		
	1986	1987	1988	1986	1987	1988
AIDS	79	108	130	811	1002	1225
AMEBIASIS	34	26	40	447	306	291
CAMPYLOBACTER	49	41	34	512	312	402
COCCIDIOIDOMYCOSIS	1	–	–	3	2	4
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	64	61	58	658	590	523
GIARDIASIS	27	26	35	293	206	296
GONORRHEA	491	509	464	4437	4683	4889
HEPATITIS Type A	6	18	15	95	142	212
HEPATITIS Type B	7	9	4	118	136	64
HEPATITIS Non A-Non B	2	1	–	30	15	13
HEPATITIS Type Unspecified	–	–	–	12	4	2
LEPROSY	–	–	–	8	8	1
MALARIA	–	–	2	19	12	14
MEASLES	–	–	–	2	12	5
MENINGITIS, BACTERIAL	–	3	1	11	13	7
MENINGITIS, VIRAL	1	–	–	9	1	8
MUMPS	2	–	1	6	6	4
PERTUSSIS	–	–	–	4	3	2
PSITTACOSIS	–	–	–	1	1	1
RUBELLA	–	–		5	4	
SALMONELLOSIS	23	21	19	185	161	168
SHIGELLOSIS	44	29	36	325	311	321
SYPHILIS, Total	61	43	49	649	538	435
SYPHILIS, Primary & Secondary	30	18	23	299	187	169
TUBERCULOSIS (all forms)	28	19	25	213	240	245
TYPHOID FEVER	–	–	–	5	2	12
Total deaths reported this period		647	671		6308	6601
Deaths from pneumonia this period		16	17		195	193

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Survival Following Diagnosis of AIDS-Related Opportunistic Infections in San Francisco, 1981-1987

To determine lengths of survival following diagnosis of specific AIDS-related opportunistic infections, 3,923 patients reported to the San Francisco Department of Public Health between July 1981 and August 31, 1987 were studied. Cases reported under the revised Centers for Disease Control AIDS case definition (September 1987) were excluded. Patients were followed at six-month intervals from diagnosis to death. Follow-up was conducted through April 15, 1988. The maximum follow-up time was 89 months (mean = 17.1 months). Follow-up was nearly complete, with 7.2 percent of cases known to be lost to follow-up. Median survival for all 3,923 patients diagnosed through August 31, 1987 was 12.2 months, with a three-year survival rate of 9.7%.

We examined survival for 2,577 patients presenting with *Pneumocystis carinii* pneumonia (PCP) and six other opportunistic infections. With the exception of patients presenting with candidiasis, patients presenting with other opportunistic infections had shorter median survivals than patients presenting with PCP (Table 1). Patients presenting with non-pulmonary cryptococcosis (median = 8.7 months, $p < .01$), cytomegalovirus (6.1 months, $p < .05$), disseminated *Mycobacterium avium* complex or *M. kansasii* (5.1 months, $p < .001$), and cerebral toxoplasmosis (3.9 months, $p < .01$) had significantly shorter median survivals than patients presenting with PCP (12.0 months).

After controlling for age, race/ethnicity, sex, year of diagnosis, and risk group, patients presenting with toxoplasmosis, *Mycobacterium*, cytomegalovirus, and cryptococcosis continued to exhibit significantly shorter survivals than patients presenting with PCP. However, patients presenting with candidiasis and cryptosporidiosis did not have significantly different survivals than those presenting with PCP in similar analyses.

Survival trends were analyzed separately for each of the seven initial diagnoses. For patients presenting with PCP or candidiasis, survival increased significantly for those patients diagnosed during 1986-87 compared to those diagnosed in 1985 and earlier (Table 2). Patients presenting with *Mycobacterium* had decreased survival for 1986-87 when compared to patients diagnosed in 1985 and earlier. Patients presenting with cryptosporidiosis, cryptococcosis, cytomegalovirus, and toxoplasmosis did not have significant differences in median survivals between the two time periods.

Reported by the Surveillance and Investigations Branch, AIDS Office.

Editorial Note: Analysis of the first 500 patients diagnosed in San Francisco showed no statistically significant difference in survival for patients diagnosed with PCP than for patients diagnosed with other opportunistic infections (10 vs. 6 months, NS) (1). Our current data, however, demonstrate shorter survivals for patients initially diagnosed with other opportunistic infections. Survival analysis of AIDS cases in Great Britain through June 1985 showed similar median survivals for patients presenting with PCP and other opportunistic infections (12.5 months and 13.3 months, respectively) (2).

For AIDS patients diagnosed in New York through December 1985, survival for patients presenting with other opportunistic infections was shorter than for patients presenting with PCP (209 days for one other opportunistic infection and 235 days for two other opportunistic infections vs. 318 days for PCP alone) (3).

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Table 1. Survival for AIDS cases presenting with opportunistic infections, San Francisco, 1981 through August 31, 1987

Diagnosis	N	Median Survival (months)	p value*
PCP**	2220	12.0	
Candidiasis	61	15.1	NS+
Cryptosporidiosis	57	10.5	NS+
Cryptococcosis	118	8.7	p <.01
Cytomegalovirus	44	6.1	p <.05
Mycobacterium	55	5.1	p <.001
Toxoplasmosis	22	3.9	p <.01

*significance test (chi-square) comparing survival for opportunistic infection vs. PCP
**PCP, *Pneumocystis carinii* pneumonia
+NS, not significant

Table 2. Survival by year of diagnosis for AIDS cases presenting with opportunistic infections, San Francisco, 1981 to August 31, 1987

Initial Diagnosis and Year	Median Survival (months)	p value*
PCP		
≤1985	10.1	
1986-87	14.4	p <.001
Candidiasis		
≤1985	6.8	
1986-87	15.9	p <.01
Cryptosporidiosis		
≤1985	10.4	
1986-87	10.6	NS
Cryptococcosis		
≤1985	7.8	
1986-87	8.9	NS
Cytomegalovirus		
≤1985	3.3	
1986-87	8.0	NS
Mycobacterium		
≤1985	5.9	
1986-87	3.1	p <.05
Toxoplasmosis		
≤1985	3.9	
1986-87	3.6	NS

* Significance test (chi-square) comparing survival for patients diagnosed in 1986 or 1987 with patients diagnosed in 1985 or earlier.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING Oct. 29, 1988

DISEASE	CASES REPORTED WEEKS 40 THROUGH 43			TOTAL CASES REPORTED TO DATE		
	1986	1987	1988	1986	1987	1988
AIDS	87	161	87	898	1163	1312
AMEBIASIS	47	25	35	494	331	326
CAMPYLOBACTER	62	24	49	574	336	451
COCCIDIOIDOMYCOSIS	–	–	3	3	2	7
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	66	55	56	724	645	579
GIARDIASIS	49	27	51	342	233	347
GONORRHEA	579	485	591	5016	5168	5480
HEPATITIS Type A	12	10	19	107	152	231
HEPATITIS Type B	15	11	8	133	147	72
HEPATITIS Non A-Non B	–	–	3	30	15	16
HEPATITIS Type Unspecified	3	2	2	15	6	4
LEPROSY	1	–	–	9	8	1
MALARIA	2	–	1	21	12	15
MEASLES	–	–	–	2	12	5
MENINGITIS, BACTERIAL	–	–	–	11	13	7
MENINGITIS, VIRAL	–	–	–	9	1	8
MUMPS	2	–	1	8	6	5
PERTUSSIS	–	–	–	4	3	2
PSITTACOSIS	2	–	–	3	1	1
RUBELLA	–	–		5	4	
SALMONELLOSIS	16	15	32	201	176	200
SHIGELLOSIS	32	26	40	357	337	361
SYPHILIS, Total	43	49	53	692	587	488
SYPHILIS, Primary & Secondary	14	22	18	313	209	187
TUBERCULOSIS (all forms)	23	29	18	236	269	263
TYPHOID FEVER	–	1	3	5	3	15

Total deaths reported this period	692	626	7000	7227
Deaths from pneumonia this period	23	20	218	213

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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

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SF P72 #5 JAN '89

Syphilis in HIV-Infected Persons

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Epidemiologic studies have demonstrated that syphilis and other sexually transmitted diseases that cause genital ulceration may be cofactors for acquiring human immunodeficiency virus (HIV) infection (1,2). Conversely, isolated case reports have suggested that coexistent HIV infection may alter the natural history of syphilis and/or the dose or duration of treatment required to cure syphilis (3,4). Additionally, reports of falsely negative serologic tests for syphilis in HIV-infected patients raise questions regarding the sensitivity of these tests in such patients (5). Some patients infected with both *Treponema pallidum* and HIV have had unusually high titers on nontreponemal serologic tests for syphilis. The frequency of unusual clinical and laboratory manifestations of syphilis in patients coinfected with HIV is unknown.

For these reasons, we make the following recommendations (based on recent Centers for Disease Control guidelines [6]):

1. Persons with HIV infection acquired through sexual contact or intravenous drug use should be tested for syphilis, and all sexually active persons with syphilis should be tested for HIV infection (with the informed consent of the patient) and counseled.
2. When clinical findings suggest that syphilis is present, but serologic tests are negative, other tests should be used. Darkfield examination of exudate from suspicious lesions of primary or secondary syphilis should always be done, if feasible. Where darkfield examination is negative, clinically suspicious lesions should be biopsied. These biopsies should be evaluated for spirochetes using special stains or techniques such as the Steiner stain or direct fluorescent antibody for *T. pallidum* (DFA-TP).
3. Laboratories should titrate nontreponemal tests to a final endpoint, rather than reporting results as greater than an arbitrary cutoff. Specific results permit more accurate determination of response to therapy and also help identify unusual serologic responses to syphilis.
4. Neurosyphilis should be considered in the differential diagnosis of neurologic disease in HIV-infected persons.
5. Clinicians should consult with the STD Control Division of the San Francisco Department of Public Health, their infectious disease specialists or pathologists about unusual serologic test results or special tests available in their area.

If spirochetes are not demonstrated on biopsy material or special techniques are not available to identify spirochetes, and clinical suspicion of syphilis remains high, clinicians may wish to treat HIV-infected patients presumptively for early syphilis. These patients should be followed closely after treatment for evidence of seroconversion.

Case reports have suggested that treatment failures, including progression to neurosyphilis, may occur more frequently in patients coinfected with HIV than in those with syphilis alone (3,4). This has not been confirmed, but impairment of both humoral and cell-mediated immunity by HIV infection makes this a plausible theory (7). In animal models, selective impairment of cell-mediated immunity alters the host response to syphilis infection: incubation time is shorter, lesions are more numerous and widespread, and healing time is slower (8).

It is currently unclear when to examine the CSF in patients with syphilis and concurrent HIV infection. Examination of CSF for evidence of neurosyphilis certainly should be

performed in all HIV-infected patients or patients at risk for HIV infection who have unexplained behavioral or psychologic abnormalities; ocular, auditory, or other neurologic symptoms or signs. All HIV positive individuals should have a thorough neurologic examination, and the clinician should maintain a very low threshold for LP and CSF evaluation for neurosyphilis. Any HIV positive patient undergoing an LP, regardless of the indication, should have a CSF VDRL sent as part of routine CSF evaluation. All patients who fail treatment for syphilis (*described below*) and all HIV-infected patients diagnosed with syphilis of greater than one year's duration should also have their CSF examined.

Because of the recent case reports of neurosyphilis in HIV-infected patients who had completed standard therapy for early syphilis, some experts believe that routine CSF examination in HIV-infected patients with syphilis of less than one year's duration is now indicated and therapy for neurosyphilis should be offered to those patients with a positive CSF VDRL test (9). However, other experts believe that these isolated case reports do not justify the need for routine CSF examinations in early syphilis and that additional studies are needed to determine the significance of these reports. Until more data is available to address the need for evaluating CSF in patients with early syphilis and no neurologic abnormalities, the current dilemma should be discussed with patients.

Recent case reports have also raised questions regarding the efficacy of current treatment recommendations for syphilis in the HIV-infected patient. For HIV-infected patients with primary, secondary or latent syphilis of less than one year's duration, the Centers for Disease Control currently recommends the same treatment regimen as for patients without HIV infection: 2.4 million units of benzathine penicillin G administered intramuscularly at a single session. In penicillin-sensitive patients, tetracycline hydrochloride given as 500 mg orally 4 times a day for 15 days is standard. However, if compliance and close follow-up cannot be assured in patients taking tetracycline, hospitalization, desensitization to penicillin, and management in consultation with an infectious disease expert is recommended.

Careful follow-up and serologic testing after treatment for early syphilis is essential for all patients, especially in patients coinfected with HIV. Quantitative nontreponemal tests should be repeated at 1 week after treatment; at 1, 2 and 3 months; and at 3-month intervals thereafter until a satisfactory serologic response to treatment occurs. If the titer does not decrease appropriately (two-dilution decrease by 3 months for primary syphilis or by 6 months for secondary syphilis), the patient should be reevaluated to consider the possibility of reinfection, treatment failure, or neurosyphilis; the CSF should be examined at this time.

In HIV-infected patients with latent syphilis of greater than one year's duration, CSF examination should precede and guide treatment. If lumbar puncture is impossible, patients should be treated for neurosyphilis.

Benzathine penicillin regimens should not be used to treat either asymptomatic or symptomatic neurosyphilis in HIV-infected patients. These patients should be treated for at least 10 days with either aqueous crystalline penicillin G, 24 million units IV per day or aqueous procaine penicillin G, 2.4 million units IM daily, and probenicid 500 mg orally four times daily. These intramuscular injections, however, are painful and patient compliance must be a concern. Penicillin-sensitive patients should be hospitalized and desensitized to penicillin.

Until the efficacy of treatment regimens is better defined, the importance of closely following all HIV-infected patients with syphilis must be emphasized.

Criteria for determining treatment failure are currently based on serologic responses to treatment established in patients with normal immune function. These include the following findings:

1. Persistence or recurrence of clinical signs or symptoms of syphilis,
OR
2. A four-fold (two dilutions) increase in the titer of nontreponemal tests,
OR
3. Failure of the initially high nontreponemal test titer in patients with primary syphilis to decrease four-fold (two dilutions) and eight-fold (four dilutions) at 3 and 6 month follow-up tests, respectively, and in patients with secondary syphilis, to decrease four-fold at 6 months (10).

Although the serologic response in HIV-infected patients is unknown, until additional data are available, the above criteria should also be used for determining treatment failures in HIV-infected patients.

For patients with neurosyphilis, repeat serologic testing as described above and CSF examination at 6 month intervals is recommended until the findings have stabilized. Abnormal CSF white blood cell counts and protein levels should normalize by 6 months if no coexisting CNS infections are present, but the CSF VDRL may not return to a nonreactive state.

Because the frequency of treatment failures as well as unusual clinical and laboratory complications of syphilis in HIV-coinfected patients is unknown, the San Francisco Department of Public Health is requesting that health care providers notify the Health Department of all such cases. Specifically, we are interested in information on HIV-infected patients with at least one of the following:
1. Neurosyphilis confirmed by CSF exam or histopathology.
2. Seronegative secondary syphilis diagnosed by darkfield microscopy or histopathology of lesion material.
3. Treatment failure for syphilis as defined above.

Please forward reports or questions to:
Hillard Weinstock, M.D.
OR
Gail Bolan, M.D.
Division of STD Control
San Francisco Dept. of Public Health
356 7th Street, San Francisco, CA 94103
Telephone: 864-8100 or 431-0751

Cases of early syphilis, especially in HIV-infected patients should continue to be reported to the San Francisco Department of Public Health by calling 864-8100, ext. 81 during the day and 495-7432 after hours.

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CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING Dec. 3, 1988

DISEASE	CASES REPORTED WEEKS 44 THROUGH 48			TOTAL CASES REPORTED TO DATE		
	1986	1987	1988	1986	1987	1988
AIDS	141	181	165	1039	1344	1477
AMEBIASIS	32	36	27	526	367	353
CAMPYLOBACTER	45	41	34	619	377	485
COCCIDIOIDOMYCOSIS	-	-	-	3	2	7
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	97	67	68	821	712	647
GIARDIASIS	30	34	35	372	267	382
GONORRHEA	684	630	631	5700	5798	6111
HEPATITIS Type A	21	10	24	128	162	255
HEPATITIS Type B	13	15	13	146	162	85
HEPATITIS Non A-Non B	-	2	-	30	17	16
HEPATITIS Type Unspecified	1	1	1	16	7	5
LEPROSY	1	1		10	9	1
MALARIA	5	4	2	26	16	17
MEASLES	-	-	-	2	12	5
MENINGITIS, BACTERIAL	5	-	1	16	13	8
MENINGITIS, VIRAL	2	-	2	11	1	10
MUMPS	1	1	2	9	7	7
PERTUSSIS	-	-	1	4	3	3
PSITTACOSIS	-	-	-	3	1	1
RUBELLA	-	-		5	4	
SALMONELLOSIS	35	28	14	236	204	214
SHIGELLOSIS	25	60	37	382	397	398
SYPHILIS, Total	73	55	72	765	642	560
SYPHILIS, Primary & Secondary	25	24	25	338	233	212
TUBERCULOSIS (all forms)	31	28	25	267	297	288
TYPHOID FEVER	1	-	-	6	3	15
Total deaths reported this period		884	771		7884	7998
Deaths from pneumonia this period		42	19		260	232

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Vol. 5, No. 2 February 1989

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Suicides among Persons 15 to 24 Years of Age, San Francisco: 1982-1986*

Background

From 1900 to 1955, the suicide rate for 15 to 24 year-olds in the United States was stable at about half the rate for the total population; however, since then the rate for this age group has increased dramatically. By 1978, the rate for 15 to 24 year-olds exceeded the rate for persons of all ages. In 1984, suicide was the second leading cause of death for persons in this age group, up from the fifth leading cause in 1960 (1).

This report describes suicides among persons 15 through 24 years of age in San Francisco between 1982 and 1986.

Methods

Computerized death certificate data were obtained from the Health Demographics Section, California Department of Health Services for all San Francisco residents aged 15 to 24 years who died of suicide (ICD-9 E950-E959) between 1982 and 1986. Projected population estimates for the years 1982-1986 obtained from the Population Research Unit, California Department of Finance and 1984 U.S. suicide rates (2) were used to calculate expected numbers of suicides in San Francisco. The observed and expected numbers were compared, assuming a Poisson distribution.

Results

Between 1982 and 1986, 68 (8.9%) of the 762 San Francisco residents who committed suicide were 15 to 24 years of age. (There were also 2 suicide victims younger than 15 years of age.) Of the 68, 53 (78%) were 20-24 years of age; 49 (72%) were male; 37 (54%) were white non-Hispanic, 12 (18%) Hispanic, 9 (13%) Chinese and 6 (9%) black non-Hispanic (Table 1). Fifty-eight (85%) died in San Francisco; 25 (37%) committed suicide in their homes and 46 (94% of those for whom data were available) died the day of their suicide attempts (Table 2). The most common method of suicide was firearms, 22 (32%); followed by jumping, 18 (26%); and hanging, 16 (24%). Suicide rates for males were approximately 2.5 times greater than for females, for both the 15 to 19 year-old and 20 to 24 year-old age groups. The observed number of suicides for both sexes aged 15 to 19 years and for males aged 20 to 24 years was not significantly different from the expected numbers based on 1984 national rates. However, the number of suicides among females in San Francisco aged 20 to 24 years was significantly greater than expected ($p<.01$, Table 3).

Editorial Note: Accurate and reliable assessment of suicide rates is hampered by the underreporting of suicides, delay in the availability of mortality data, and absence of key information on death certificates.

Suicide as a cause of death is undoubtedly underreported on death certificates. In a survey of 200 medical examiners, the majority believed that the reported number of suicides is probably less than 50% of the actual number (3). The limited accuracy and reliability of suicide statistics can be partially attributed to the lack of a commonly accepted and applied definition of suicide. Personal biases, incomplete information, and social and family pressures probably also contribute to the underreporting of suicide.

Some risk factors such as mental illness, hopelessness, prior suicide attempts, or a family history of suicide have been linked with an increased susceptibility to suicide (4-7). More research is needed to determine other possible risk factors specific to a young population, such as emotional stress, family structure, and

drug or alcohol abuse. Another potential risk factor is exposure to suicides in one's social network. Apparent clusters of youth suicides have been reported in many areas of the United States. At this time, the numbers and circumstances surrounding these are not clearly known (8). The Centers for Disease Control recently issued recommendations for the prevention and containment of suicide clusters (9).

One obstacle to reducing national youth suicides is an insufficient knowledge of what interventions work, for what populations, under what circumstances. To date, the most widespread prevention efforts have been made through suicide prevention centers or crisis intervention units. These services include hotlines, walk-in counseling, groups for suicidal individuals and their families, and community-centered outreach programs.

In addition to the tragic loss to family, friends, and community, the suicide of a young person results in the irretrievable loss of many years of productivity. Increased epidemiologic analysis is needed to identify the nature and importance of specific risk factors, characterize vulnerable individuals or groups, and assess current prevention strategies to assure progress in the understanding and prevention of youth suicide.

*Adapted from MMWR 1988:37(No.SS-1):61-68.

San Francisco Comment: San Francisco Suicide Prevention, Inc. operates a 24-hour crisis line (221-1423) for individuals of all ages, and a YOUTHLINE for persons 13 to 24 years of age. The YOUTHLINE (752-2000) is operated during selected days and hours by trained high school and college age peer volunteers.

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Table 1. Characteristics of suicide victims aged 15–24 years, San Francisco 1982–1986

Age	Number	(%)
15–19	15	(22)
20–24	53	(78)
Sex		
Male	49	(72)
Female	19	(28)
Race/ethnicity		
White non-Hispanic	37	(54)
Black non-Hispanic	6	(9)
Hispanic	12	(18)
Chinese	9	(13)

Table 2. Characteristics of the circumstances of suicide of persons aged 15–24 years, San Francisco 1982–1986

	No.	(%)
Year of death		
1982	12	(18)
1983	14	(21)
1984	16	(24)
1985	10	(15)
1986	16	(24)
County of death		
San Francisco	58	(85)
Other California counties	8	(12)
Place of injury		
Home	25	(48)*
Street	3	(6)
Other specified place	24	(46)
Time from injury to death (days)		
0	46	(94)*
1–6	2	(4)
>7 days	1	(2)

*of known values

Table 3. Observed and expected numbers of suicides by age group and sex, San Francisco 1982–1986

Group	Observed	Expected*	Rate (per 100,000 person years)
Males			
15–19 years	11	12.9**	12.2
20–24 years	38	33.4**	29.7
Females			
15–19 years	4	3.1**	4.5
20–24 years	15	6.4***	12.3

* Based on 1984 U.S. rates
** NS
*** $p < 0.01$

Table 4. Cause of death, suicide victims 15–24 years of age, San Francisco 1982–1986

Cause of death	No.	(%)
Poisonings	7	(10)
Motor vehicle exhaust	3	(4)
Hangings	16	(24)
Drownings	1	(2)
Firearms	22	(32)
Jumping from high places	18	(26)
Jumping or lying before a moving object	1	(2)

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING Dec. 31, 1988

DISEASE	CASES REPORTED WEEKS 49 THROUGH 52			TOTAL CASES REPORTED TO DATE		
	1986	1987	1988	1986	1987	1988
AIDS	82	112	126	1121	1456	1603
AMEBIASIS	28	34	25	554	401	378
CAMPYLOBACTER	37	29	44	656	406	529
COCCIDIOIDOMYCOSIS	–	–	1	3	2	8
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	33	54	48	854	766	695
GIARDIASIS	26	34	28	398	301	410
GONORRHEA	440	556	546	6140	6354	6657
HEPATITIS Type A	3	5	9	131	167	264
HEPATITIS Type B	5	8	19	151	170	104
HEPATITIS Non A-Non B	3	2	3	33	19	19
HEPATITIS Type Unspecified	–	1	–	16	8	5
LEPROSY	1	–	–	11	9	1
MALARIA	2	2	5	28	18	22
MEASLES	–	–	–	2	12	5
MENINGITIS, BACTERIAL	–	2	–	16	15	8
MENINGITIS, VIRAL	–	–	3	11	1	13
MUMPS	–	–	–	9	7	7
PERTUSSIS	–	–	–	4	3	3
PSITTACOSIS	–	–	–	3	1	1
RUBELLA	–	–		5	4	
SALMONELLOSIS	14	14	21	250	218	235
SHIGELLOSIS	40	27	31	422	424	429
SYPHILIS, Total	41	44	73	806	686	633
SYPHILIS, Primary & Secondary	17	18	20	355	251	232
TUBERCULOSIS (all forms)	16	24	26	283	321	314
TYPHOID FEVER	–	–	3	6	3	18

Total deaths reported this period	624	680	8508	8678
Deaths from pneumonia this period	17	23	277	255

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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

Vol. 5, No. 3 March 1989

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Acquired Immunodeficiency Syndrome in the Elderly, San Francisco

As of December 31, 1988, 5,834 cases of acquired immunodeficiency syndrome (AIDS) and 2,721 deaths from AIDS had been reported to the San Francisco Department of Public Health. Of these, 125 (2%) cases and 97 (3%) deaths were among patients 60 years old or older. This corresponds to an incidence of 90 cases per 100,000 San Francisco residents ≥60 years old.

Of the 125 patients ≥60 years old, 107 (86%) were 60-69 years old, 16 (13%) were 70-79 years old, and 2 (2%) were ≥80 years old. Patients 60-69 years old differed significantly from patients ≥70 years old by transmission category ($p<.001$). Among patients 60-69 years old, 78 (73%) were homosexual or bisexual men, 19 (18%) were transfusion recipients, and 10 (9%) were in other transmission categories. Among patients ≥70 years old, 6 (33%) were homosexual or bisexual men, and 11 (61%) were transfusion recipients. Homosexual and bisexual men with AIDS ≥60 years old were less likely than men <60 years old to have histories of intravenous drug use (5% vs 12%, $p<.05$).

AIDS patients ≥60 years old were more likely to be female than patients <60 (7% vs 1%, $p<.001$) with the proportion of women increasing with increasing age (Table 1). Patients ≥60 were also more likely to live outside San Francisco than patients <60 (22% vs 11%, $p<.001$). Racial and ethnic distributions were similar in patients ≥60 and <60 years old.

Patients ≥60 years old differed by initial diagnosis from patients <60. Of the 125 patients ≥60 years old, 102 had an initial diagnosis other than Kaposi's sarcoma (KS), and 23 (21%) had an initial diagnosis of KS alone or in combination with *Pneumocystis carinii* pneumonia (PCP). Among patients <60, 33% had an initial diagnosis of KS alone or in combination with PCP ($p<.001$). In addition, of the 3,926 patients diagnosed through December 31, 1987, patients ≥60 years old had significantly shorter median survival than patients <60 years old (5.7 months vs 12.6 months, $p<.001$) (1).

Reported by: Division of Medical Services, Laguna Honda Hospital; Eldercare Program, Office of Senior Health Services; Surveillance Branch, AIDS Office.

Editorial Note: While the epidemiology of AIDS in the elderly has received relatively little attention (2-7), nationally 10% of all reported AIDS cases are in patients 50 years old or older at the time of diagnosis (8). Our data indicate that a substantial proportion of human immunodeficiency virus (HIV) transmission in this population is sexual, with transfusion-associated infection becoming the predominant mode of transmission only in the population ≥70 years old. Additional studies are needed to assess the effects of aging on the HIV-infected immune system and the prevention and care needs of this population (7).

Table 1. AIDS cases in San Francisco by age group and sex, 1981-1988

Age	Male N	Male %	Female N	Female %
<60 years	5658	(99)	51	(1)
60-69 years	102	(95)	5	(5)
70-79 years	13	(81)	3	(19)
≥80 years	1	(50)	1	(50)

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CHRONIC FATIGUE SYNDROME CONFERENCE

The San Francisco Department of Health will host nationally recognized physicians and researchers at the Chronic Fatigue Syndrome Conference on Saturday, April 15, 1989 at the San Francisco Hilton Hotel. The one-day medical conference will focus on the controversial illness, also referred to as Chronic Epstein-Barr Virus (CEBV) syndrome and Chronic Fatigue Immune Dysfunction Syndrome (CFIDS). It will present up-to-date clinical findings and research on Chronic Fatigue Syndrome and will focus on identification, diagnosis, prognosis, and treatment of patients.

The conference will be directed at primary care practitioners including: adolescent medicine specialists, family physicians, general practitioners, gynecologists, infectious disease specialists, internists, neurologists, nurses, obstetricians, pediatricians, psychiatrists, public health specialists and rheumatologists.

The registration fee is $75. To register for the conference, contact Krebs Convention & Management Services, 555 De Haro Street, Suite 200, San Francisco, CA 94107. For additional registration information call (415) 255-1297.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING January 28, 1989

DISEASE	CASES REPORTED WEEKS 1 THROUGH 4			TOTAL CASES REPORTED TO DATE		
	1987	1988	1989	1987	1988	1989
AIDS	94	140	130	94	140	130
AMEBIASIS	21	27	15	21	27	15
CAMPYLOBACTER	30	35	45	30	35	45
COCCIDIOIDOMYCOSIS		1	1		1	1
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	57	59	42	57	59	42
GIARDIASIS	18	21	14	18	21	14
GONORRHEA	500	475	523	500	475	523
HEPATITIS Type A	8	15	13	8	15	13
HEPATITIS Type B	17	10	5	17	10	5
HEPATITIS Non A-Non B	2	6		2	6	
HEPATITIS Type Unspecified	1		1	1		1
LEPROSY						
MALARIA	2	1		2	1	1
MEASLES						
MENINGITIS, BACTERIAL		1	1		1	1
MENINGITIS, VIRAL	1		3	1		3
MUMPS		1			1	
PERTUSSIS						
PSITTACOSIS						
RUBELLA						
SALMONELLOSIS	24	16	17	24	16	17
SHIGELLOSIS	29	27	25	29	27	25
SYPHILIS, Total	42	27	38	42	27	38
SYPHILIS, Primary & Secondary	23	12	15	23	12	15
TUBERCULOSIS (all forms)	27	29	18	27	29	18
TYPHOID FEVER	1			1		

Total deaths reported this period	738	766	738	766
Deaths from pneumonia this period	25	29	25	29

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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

Vol. 5, No. 4 April 1989

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Sexually Transmitted Diseases in San Francisco: Changes in Incidence, 1984-1988

Background

Total gonorrhea and syphilis case reports have decreased dramatically in San Francisco since the advent of the acquired immunodeficiency syndrome (AIDS) epidemic. In 1981, 17,318 cases of gonorrhea and 2,054 cases of early syphilis (including primary, secondary, and early-latent syphilis) were reported among San Francisco residents; in 1988 only 5,892 gonorrhea cases and 352 early syphilis cases were reported, representing decreases of 66 percent and 83 percent, respectively.

The sharpest decrease occurred in the period between 1981 and 1984: only 8,629 gonorrhea cases and 1,279 early syphilis cases were reported in 1984. Since then, gonorrhea incidence has remained fairly constant at approximately 1,000 cases per 100,000 residents per year. Early syphilis incidence has continued to decline, from 200 cases per 100,000 in 1984 to 50 cases per 100,000 in 1988; since 1987, this decline has leveled off. However, overall sexually transmitted disease (STD) rates mask several important trends, and further analysis of reported STD data has revealed substantial increases in some populations offsetting the decreases in others.

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Methods

Data for this analysis consisted of all cases of gonorrhea and syphilis reported to the San Francisco Department of Public Health for the years 1984 through 1988, inclusive. These included reports from the city STD clinic, and from other clinics, hospitals, laboratories and private medical doctors.

Age, ethnicity, gender, census tract of residence, date of visit and source of report were recorded for all patients (when available). Only San Francisco residents were included.

Male cases that had previous or subsequent reports of rectal or pharyngeal gonorrhea, or who had negative rectal or pharyngeal gonorrhea cultures taken at the city STD clinic were classified as presumptively gay or bisexual in analysis of gonorrhea trends; these males are referred to below as "gay/bisexual," and other males are referred to as "heterosexual".

Data from the 1980 U.S. Census were used for denominators in calculating rates; changes in incidence are due to changes in reported cases only. Trends were examined by fitting polynomial regression lines to quarterly reported totals; differences in trends among groups were examined by analysis of co-variance. These same methods have been used by the Centers for Disease Control in short-term forecasting of AIDS cases.

Incidence rates

Current incidence rates - based on cases reported in the fourth quarter of 1988 - are listed in Table 1. Marked differences were found between racial and ethnic groups. For both syphilis and gonorrhea, blacks have the highest rates, followed by Hispanics and whites, with Asians/others having the lowest rates. Syphilis rates for blacks are three times the overall rate, and four times the rate for whites. Differences are even greater for gonorrhea, where the rate for blacks is 4.5 times the overall rate and 10 times the white rate.

Differences between age groups are less marked. For gonorrhea, the highest rates are among 15-19 year old adolescents, while syphilis rates peak at 30-34 years.

In males, the rates are almost twice the female rate for gonorrhea and three times the female rate for early syphilis.

When data were analyzed by age and

race/ethnicity, the highest rates were seen among black adolescents and young adults. The lowest rates were seen among older Asians/others. Based on these incidence rates, the risk of contracting gonorrhea over a period of one year is approximately 10% for blacks under 30 years of age, but less than 1% for whites in the same age group.

Trends in reported cases

Figure 1 shows changes in overall gonorrhea incidence and changes for different racial/ethnic groups. While gonorrhea rates have decreased for whites and Hispanics and remained at constant, low levels for other races the rate for blacks has risen markedly since 1986. This difference is less dramatic for syphilis rates (Figure 2), where rates among whites have decreased each year since 1984, and the first increase in cases among blacks is seen in the last quarter of 1988.

When gonorrhea rates were examined by sex and sexual orientation, three significantly different trends were seen: a small, nearly linear increase among women; an exponential decrease among gay/bisexual men; and a significant increase among heterosexual males starting in 1986, after two years of decreases. The decline in gonorrhea cases among gay/bisexual males is similar to the decline in rectal gonorrhea cases previously reported (1).

The overall trends, including sex, race, age and sexual orientation, are shown in Figure 3. The small increases among all women represent a combination of increases among black women and corresponding decreases among white and Hispanic women. Recent increases among heterosexual males are a combination of large increases in black cases from 1985 onward coupled with a leveling-off of white cases and steady decreases in Hispanic cases. Among black heterosexual cases, increases have been seen in all age groups.

Information identifying the sexual orientation of patients with syphilis was not available, but other factors were examined. Significant differences in syphilis trends among racial/ethnic groups were seen (Figure 4). In contrast to the sharp increases seen in gonorrhea, syphilis cases among black adults and adolescents showed decreases between 1984 and 1987, and small increases between 1987 and 1988. Syphilis cases among Hispanics, Asians, and other races/ethnicities showed little change between 1984 and 1988, while steady decreases in gonorrhea cases were observed. The declining syphilis rates for whites since 1984 were similar to those for gonorrhea among gay/bisexual males, suggesting that this decline may be due primarily to changes in syphilis rates among white gay/bisexual men.

Discussion

For the calendar year 1988, overall incidence of gonorrhea in the United States was 292.4 cases per 100,000, a decrease of 16 percent from 1987 (2); the incidence in San Francisco was 867.8 cases per 100,000, a 6 percent increase over 1987. The incidence of syphilis in San Francisco was also well above the national incidence during 1988 (16.4 primary and secondary syphilis cases per 100,000 for the nation [2] vs 29.1 for San Francisco).

The sexual practices that lead to syphilis and gonorrhea infection may also place persons at risk for human immunodeficiency virus (HIV) infection. The incubation periods for both gonorrhea (2 to 7 days) and syphilis (10 days to 10 weeks) (3) are much shorter, however, than the incubation period for AIDS (median of approximately 11 years) (4). Current increases in gonorrhea and syphilis cases may well presage increases in AIDS cases several years from now.

The incidence rates reported above reflect only those cases of gonorrhea and early syphilis that were reported to the Department of Public Health. Additional cases will be asymptomatic and not diagnosed. Elsewhere (5), it has been estimated that only 50 percent of all gonorrhea diagnoses are reported.

Furthermore, our reporting data are often incomplete, especially for race/ethnicity. Of the 5,892 gonorrhea reports received in 1988, 1,233 (21 percent) were lacking the race/ethnicity designation of the patient. Cases with missing data were included in calculating overall rates,

but race-specific rates were not adjusted for missing data. Because reporting is incomplete, these race-specific rates are *underestimates* of the true incidence of disease in San Francisco.

The striking differences between rates for blacks and whites may be due in part to underreporting of white cases, individuals who may be less likely to seek care at public clinics where reporting of STD cases is more complete. *(Table and figures on following pages.)*

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C H L A M Y D I A :
emerging issues for the 1990's

The San Francisco Department of Public Health, in conjunction with the California Sexually Transmitted Disease Control Assocation and the California State Department of Health Services will host a conference on chlamydia surveillance, diagnosis and treatment, and an update on pelvic inflammatory disease on Friday, June 23, 1989 at the Hyatt Regency in Burlingame, California.

The one-day clinical conference is for physicians, nurse practitioners and other health care providers working in infectious disease, obstetrics and gynecology, family medicine, adolescent medicine and pediatrics.

National and local experts on sexually transmitted disease will conduct sessions and workshops including:

Mary E. Guinan, Ph.D., M.D. Assistant Director for Science Centers for Disease Control	Keynote Address Chlamydia control: prospects for the 1990's
Mary-Ann Shafer, M.D. Associate Director, Adolescent Medicine University of California, San Francisco	Chlamydia: clinical update; adolescent issues
Julius Schacter, Ph.D. Director, Chlamydia Research Laboratory San Francisco General Hospital	Chlamydia diagnosis
Jeffrey P. Davis, M.D. Chief, Acute & Communicable Disease Epidemiology Wisconsin State Department of Health Services	Chlamydia surveillance
Richard L. Sweet, M.D. Vice Chair, Dept. of Ob-Gyn San Francisco General Hospital	PID case discussion: diagnosis and treatment

Continuing medical education credit will be available for participants. For registration information and packet, call Helen Akune at (916) 322-2087 (STD Control Program, State of California Department of Health Services).

Table 1. Incidence rates for sexually transmitted diseases, San Francisco, fourth quarter 1988. Denominators from 1980 U.S. Census data.

POPULATION		GONORRHEA		EARLY SYPHILIS*	
		Cases per 100,000 population per year	Number of Cases	Cases per 100,000 population per year	Number of Cases
all		864.80	1468	51.25	87
race/ethnicity					
black		3766.34	799	179.13	38
Hispanic		498.96	104	81.56	17
white		203.85	181	25.90	23
Asian/other		115.69	45	5.14	2
age					
10-14 years		257.09	21	12.24	1
15-19 years		2548.73	270	84.96	9
20-24 years		1949.66	318	98.10	16
25-29 years		1500.30	303	84.18	17
30-34 years		1215.25	214	102.22	18
35-39 years		1220.42	139	114.14	13
40+ years		217.20	153	29.78	13
gender					
male		1110.50	938	32.83	28
female		619.16	528	69.85	59
race/ethnicity/gender/age					
blacks					
males	15-19 years	8708.56	88	197.92	2
	20-29 years	9585.64	203	613.84	13
	30-39 years	9052.70	140	646.62	10
females	15-19 years	7860.50	80	491.28	5
	20-29 years	7210.28	147	294.30	6
	30-39 years	3273.55	47	417.88	6
whites					
males	15-19 years	58.57	1	no cases	-
	20-29 years	573.01	60	57.28	6
	30-39 years	540.84	54	80.12	8
females	15-19 years	620.73	10	no cases	-
	20-29 years	299.98	28	10.68	1
	30-39 years	94.37	7	13.48	1
Hispanics					
males	15-19 years	1349.95	13	103.84	1
	20-29 years	1441.96	35	288.39	7
	30-39 years	1288.87	20	257.77	4
females	15-19 years	855.39	8	no cases	-
	20-29 years	480.45	9	137.96	3
	30-39 years	549.36	8	no cases	-
Asians/others					
males	15-19 years	117.89	2	no cases	-
	20-29 years	380.54	15	no cases	-
	30-39 years	258.09	7	40.33	1
females	15-19 years	423.70	7	no cases	-
	20-29 years	199.93	8	26.51	1
	30-39 years	69.10	2	no cases	-

* includes primary, secondary, and early-latent syphilis

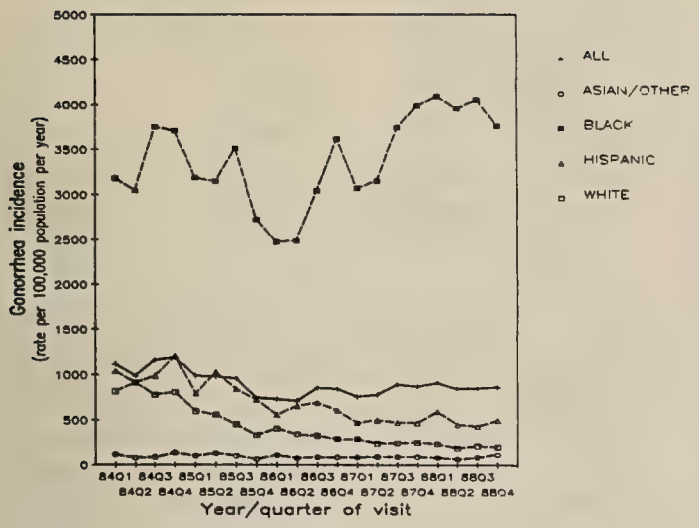

Figure 1. Gonorrhea incidence by race/ethnicity of patient, San Francisco, 1984–1988.
Rates based on 1980 U.S. Census data.

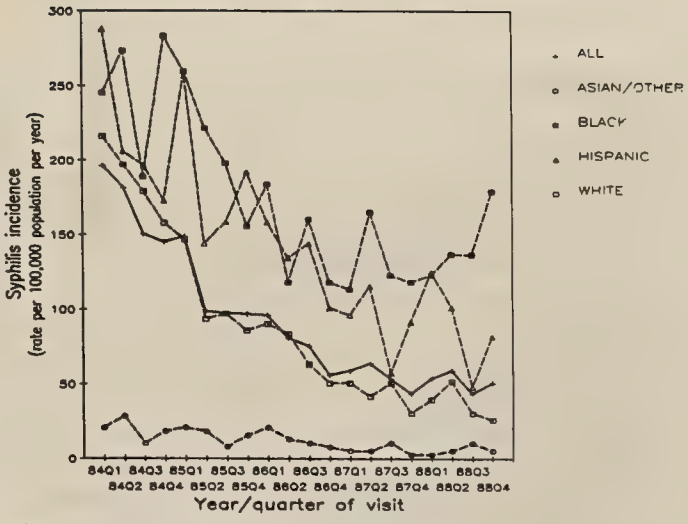

Figure 2. Syphilis incidence by race/ethnicity of patient, San Francisco, 1984–1988.
Primary, secondary, and early-latent syphilis only.
Rates based on 1980 U.S. Census data.

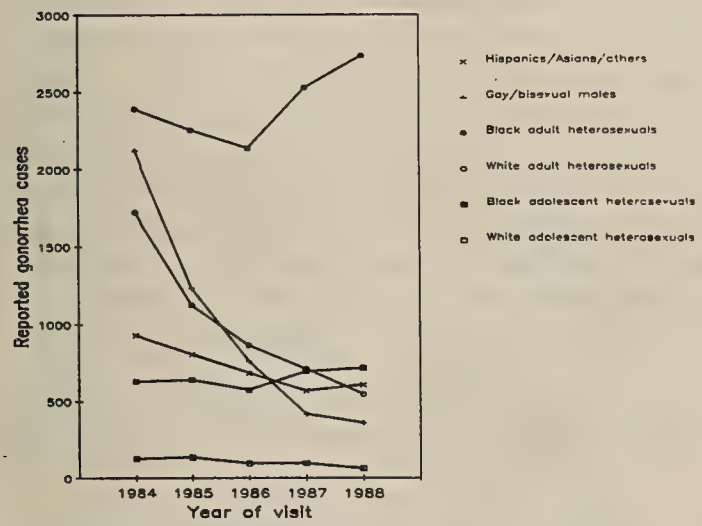

Figure 3. Trends in reported gonorrhea cases by age, race, and sex, San Francisco, 1984–1988.
Patients 20+ years of age were classified as "adult"; patients 15–19 years of age were classified as "adolescent".
No qualitative differences in trends were seen within age-race-sex categories listed.

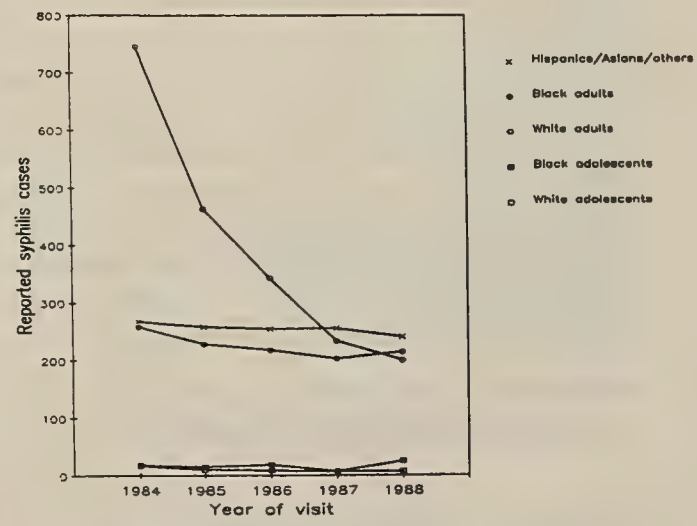

Figure 4. Trends in reported syphilis cases by age, race, and sex. San Francisco, 1984–1988.
Primary, secondary, and early-latent syphilis only.
Patients 20+ years of age were classified as "adult"; patients 15–19 years of agewere classified as "adolescent".
No qualitative differences in trends were seen within age-race-sex categories listed.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING Feb. 25, 1989

DISEASE	CASES REPORTED WEEKS 5 THROUGH 8			TOTAL CASES REPORTED TO DATE		
	1987	1988	1989	1987	1988	1989
AIDS	110	135	119	204	275	249
AMEBIASIS	22	23	22	43	50	37
CAMPYLOBACTER	26	39	48	56	74	93
COCCIDIOIDOMYCOSIS		-	-		1	1
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	60	65	42	117	124	84
GIARDIASIS	24	18	30	42	39	44
GONORRHEA	434	459	441	934	934	964
HEPATITIS Type A	15	20	15	23	35	28
HEPATITIS Type B	12	7	5	29	17	10
HEPATITIS Non A-Non B	1	1		3	7	
HEPATITIS Type Unspecified	-		-	1		1
LEPROSY	2	1		2	1	
MALARIA	2	3	1	4	4	2
MEASLES		5			5	
MENINGITIS, BACTERIAL	2	-	4	2	1	5
MENINGITIS, VIRAL	-		1	1		4
MUMPS		-			1	
PERTUSSIS	1		1	1		1
PSITTACOSIS						
RUBELLA						
SALMONELLOSIS	14	23	7	38	39	24
SHIGELLOSIS	32	26	33	61	53	58
SYPHILIS, Total	39	36	42	81	63	80
SYPHILIS, Primary & Secondary	12	13	11	35	25	26
TUBERCULOSIS (all forms)	16	30	19	43	59	37
TYPHOID FEVER	-			1		

Total deaths reported this period	736	831	1474	1597
Deaths from pneumonia this period	30	50	55	79

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Vol. 5, No. 5 May 1989

Lead Poisoning: Report of a Case

On January 7, 1989, the pediatric clinic at San Francisco General Hospital (SFGH) contacted the Bureau of Communicable Disease Control (BCDC) to report a blood lead level of 33 ug/dl (micrograms per deciliter) and a free erythrocyte protoporphyrin (FEP) of 277 ug/dl in a three year-old Hispanic female with a diagnosis of pica. The child had been followed at the pediatric outpatient clinic for eight months for persistent anemia. Blood lead levels drawn on April 16, 1988 and October 10, 1988 in conjunction with screening for anemia were 16 ug/dl and 10 ug/dl respectively; FEP levels were 85 ug/dl and 134 ug/dl.

Because the blood lead level was above the Centers for Disease Control definition of elevated blood lead ($\geq$25 ug/dl), BCDC launched an investigation into the case.

An interview with the patient's mother revealed that the child lives with her father, mother, a four year-old brother and a five and one half year-old stepsister. In addition, the mother's two brothers live with the family; one has a wife and ten month-old son. The family has lived at the home for ten months. The patient's father and uncles work as electricians; all deny exposure to lead or other metals of any kind except copper containing wire. The two women in the household do not work outside the home. No lead emitting industries or workshops are close to the home.

A team of investigators from BCDC, the Department's Environmental Health Services (EHS), and the California Department of Health Services Childhood Lead Poisoning Prevention Program (CLPPP) conducted an on-site inspection of the home. The team collected paint samples from both inside and outside the house, soil samples from the front and back yards, and dust samples from rugs and windows of the room where the patient, according to her mother, spends virtually all of her time.

No pottery or dishes with suspicious glazing were discovered. No toys, crayons or other play items appeared to be the source of lead. The child had eaten colored newsprint in the past; this activity was stopped by the mother. The child had on occasion eaten makeup but no samples were available for testing. No lead exposures from hobbies or folk remedies (such as Azarcon and Greta, used as treatment for indigestion in some Latin cultures) were identified. The patient had ingested paint and plaster from a large section of a living room wall over time; her mother had discouraged this by putting hot pepper sauce on the wall. Except for this area, all painted surfaces in the home were intact.

Copper plumbing runs throughout the house; no lead pipes were apparent upon inspection. Although the house had undergone recent home improvements, no renovations which disturbed painted surfaces were reported or observed.

The patient had a travel history: one month to Guatemala in July 1988, and one month to Los Angeles in October 1988, but she received no foreign medication or unusual foods while traveling.

The pediatric health care provider at SFGH was informed of the presence of three other children less than age seven in the household. These three children were tested and found to have unremarkable blood lead levels.

Analysis of the paint chips, dust, and soil samples performed by the California Department of Health Service (CDHS) Air Industrial Hygiene Laboratory revealed that paint from the living room walls and window sills contained up to 43,000 ppm of lead, while levels of up to 71,000 ppm were

detected in paint on the walls of the child's bedroom. The current federal standard for lead in paints sold for use in residential housing is 600 ppm. No lead was detected in the paint from the section of the wall that the patient had ingested.

The opening and closing of windows coated with lead paint accelerates the production of lead dust. Dust samples from window sills were found to contain up to 1,700 micrograms/square foot. Soil samples and exterior paints were found to contain 751 ppm and 2,600 ppm respectively.

Conclusion. In this case, excessive lead absorption appears to have resulted from the chronic ingestion of lead in dust created by the oxidation of lead paint, in combination with the child's severe anemia. Lead dust can be pervasive in a child's environment when surfaces are coated with paint with a high lead content. Absorption of lead from dust is enhanced by the small particle size of dust. Severe anemia can increase lead absorption (1).

Contrary to popular perceptions, most moderately elevated lead exposures have little to do with the ingestion of lead paint chips or the chewing of lead painted surfaces; rather, the chronic ingestion of lead-contaminated dust, in the course of normal hand to mouth behavior, is a more likely source of contamination (2). Measures of both environmental controls and medical treatment of anemia were recommended.

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California Childhood Lead Poisoning Prevention Project

Background. Lead is ubiquitous in the environment and exposure to levels once considered low have now been found to have serious, permanent health effects. Recent studies have shown that exposure to lead, even at blood lead levels as low as 10-15 ug/dl, is linked with undesirable developmental outcomes in children and fetuses (1).

In California, it is estimated that 250,000 children under age six live in housing built before 1950, when lead paint was used extensively. Seventy-five per cent of the housing in San Francisco county was built prior to 1950. Statewide, an additional 400,000 children under age six are estimated to be at moderate risk of lead toxicity from exposure to lead in soil, water, and air (2).

California Childhood Lead Poisoning Research. The Childhood Lead Poisoning Prevention Act was passed by the California legislature in 1986 (AB 2977). This legislation established the California Department of Health Service's Childhood Lead Poisoning Prevention Program (CLPPP). Research was recently undertaken by CLPPP to determine the prevalence of childhood lead poisoning in California, and to investigate sources of lead exposure in the state. Areas considered to be at high risk for childhood lead poisoning were selected for study. "High risk" areas were defined as areas with: a large proportion of old housing [>60% built before 1950]; a large proportion of young children [>10% of the population under age six]; industrial lead emitters; freeways and major roads; and low income households. Door-to-door surveys were conducted in three high risk areas: East Oakland and the Wilmington and Compton sections of Los Angeles. A total of 1,051 children under six years of age were interviewed and screened for blood lead levels. In East Oakland, 54% of the children studied were Hispanic, 26.3% were Asian, 12.9% were black, and the remaining 6.7% were white and other races and ethnicities. In Los Angeles, 90% of the children studied were Hispanic. Paint, soil, and dust samples were obtained from each household.

Blood lead levels of children in California. Preliminary results of

the CLPPP study show 1.3% of the children screened had blood lead (PbB) levels ≥25 ug/dl, the current definition of an elevated blood lead level. The Centers for Disease Control (CDC) is considering lowering the definition of an elevated PbB to ≥15 ug/dl. Twenty percent of the children screened in the study had PbB levels of 15 ug/dl or greater. PbB levels ranged from 3 - 43 ug/dl, with an average of 11.0 ug/dl. The CLPPP study found free erythrocyte protoporphyrin, often used as a screening method for lead, did not correlate well with blood lead values and is not a reliable screening tool at lower levels now recognized as toxic.

Environmental lead. Preliminary analysis of environmental samples showed the mean soil lead level in East Oakland was 1,230 ppm. (For comparison, waste containing 1,000 ppm lead is classified as hazardous waste.) The average paint lead level in East Oakland was 27,195 ppm. In 1976, the Consumer Product Safety Commission set a limit of 600 ppm for lead in paint sold for residential use.

Lead poisoning reporting system. A second component of the the Childhood Lead Poisoning Prevention Act established a statewide lead reporting system, intended to rapidly identify cases of lead poisoning to ensure quality medical and environmental intervention. By California law, testing laboratories must report all PbB levels ≥25 ug/dl and FEP levels ≥35 ug/dl to the state.

In the period between May 1987 and November 1988, 129 PbB levels ≥25 ug/dl, and 208 PbB levels ≥15 ug/dl were received on children under sixteen years old by the laboratory reporting system. During the first nine months of reporting, reports were received for 1,293 individuals over sixteen years of age. Followup of adults with elevated lead levels has been undertaken by the California Occupational Health Program (COHP). Approximately 1% of the adult reports were of individuals with PbB over 80 ug/dl and 27% were over 40 ug/dl (the OSHA threshold for worker notification). Despite the existence of the OSHA lead standard, more than 90% of adult high lead levels are believed to be associated with workplace exposure. In addition, a recent study by the COHP found that only 2% of lead exposed workers were in medical monitoring programs for lead required by the OSHA standard (3).

Abatement regulations. There are currently no statewide regulations for the abatement of lead paint hazards. This year, the Department of Housing and Urban Development is establishing testing and abatement regulations that will cover all federally-assisted housing in the State of California.

Abatement of lead in drinking water coolers has recently been addressed by the Lead Contamination Control Act, passed in October 1988. This law mandates an assessment of lead in drinking water coolers, and the recall of those with lead lined tanks.

Conclusion and recommendations. Preliminary findings of the lead registry and epidemiologic studies indicate that lead poisoning among children and occupationally exposed adults is a significant public health problem in California. However, many health care providers remain unaware of the pervasiveness of lead in the environment and of the health effects in young children and fetuses from "low" levels of exposure.

The CDC has recommended that children in high risk areas be screened regularly. However, California has never had a statewide screening program for lead. Consequently, few cases of childhood lead poisoning are being identified. Serious health effects can occur below the exposure level that causes signs and symptoms of lead poisoning; without routine screening, lead poisoning may not be recognized.

Once a case is identified, effective treatment is a multi-disciplinary effort requiring medical management and environmental intervention to remove or minimize the source(s) of exposure.

The CLPPP will be reporting its findings and recommendations to the California legislature. The CLPPP experience has demonstrated the need to alert health care providers to the

problem of lead poisoning in California. The identification, treatment and prevention of lead poisoning among working adults and children represents a continuing challenge to public health professionals in California.

For additional information, contact the Environmental Epidemiology and Toxicology Section, California Department of Health Services at (415) 540-3657.

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Lead Abatement Recommendations

Improper abatement of lead paint poses very serious risks to workers and family members. In general, abatement is best accomplished by replacing lead-painted surfaces. Surfaces which cannot be replaced should be encapsulated with a durable material. On-site removal of lead paint is the method of last choice and should be reserved for those situations where abatement is not amenable to replacement or encapsulation. Children and pregnant or nursing women should not be present during abatement.

MAY IS TODDLER IMMUNIZATION MONTH

Two out of three California children are not completing their basic immunizations on time, according to recent surveys conducted by the State's Department of Health Services. These surveys indicate a majority of California children are behind schedule by their second birthday. Public health officials call this "the toddler gap." A fourth of the survey population also was behind in immunization at their first birthday. Although some immunizations may have been postponed because of illness, the birthday checkpoints used in the survey provided a full six month leeway after the last immunizations were due, based on routine recommended schedules.

The key to closing the toddler gap is getting these children back into the office. Most of the time, the mother is unaware the child is behind schedule. Or, if the parents are aware their child missed an immunization, they evidently do not perceive the diseases to be much of a threat. What they need is an extra nudge from their own physician.

Physicians with pediatric practices are being asked to help by having their staff review records of young patients, particularly those born in 1987, and to send reminders to those who are due or overdue for immunizations.

For more information, contact Mel Lippman in the Bureau of Communicable Disease Control, at 554-2842.

Followup: Suicides among Persons 15 to 24 Years of Age - San Francisco, 1982-1986 (Vol. 5, No. 2)

The underreporting of suicides referred to in a survey of medical examiners does not apply in San Francisco, where every effort is made to accurately determine and report the specific cause of death, according to Boyd G. Stephens, M.D., Chief Medical Examiner.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING March 25, 1989

DISEASE	CASES REPORTED WEEKS 9 THROUGH 12			TOTAL CASES REPORTED TO DATE		
	1987	1988	1989	1987	1988	1989
AIDS	115	150	142	319	425	391
AMEBIASIS	29	33	9	72	83	46
CAMPYLOBACTER	37	38	43	93	112	136
COCCIDIOIDOMYCOSIS		-	2		1	3
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	56	35	57	173	159	141
GIARDIASIS	22	26	26	64	65	70
GONORRHEA	465	679	396	1399	1613	1360
HEPATITIS Type A	15	23	19	38	58	47
HEPATITIS Type B	19	8	10	48	25	20
HEPATITIS Non A-Non B	5	2		8	9	
HEPATITIS Type Unspecified	-		3	1		4
LEPROSY	2	-	1	4	1	1
MALARIA	1	-	3	5	4	5
MEASLES	3	-		3	5	
MENINGITIS, BACTERIAL	1	1	1	3	2	6
MENINGITIS, VIRAL	-		-	1		4
MUMPS		-			1	
PERTUSSIS	-		-	1		1
PSITTACOSIS						
RUBELLA	1			1		
SALMONELLOSIS	18	17	19	56	56	43
SHIGELLOSIS	30	40	30	91	93	88
SYPHILIS, Total	65	70	73	146	133	153
SYPHILIS, Primary & Secondary	22	30	22	57	55	48
TUBERCULOSIS (all forms)	15	28	27	58	87	64
TYPHOID FEVER	-	1	2	1	1	2
Total deaths reported this period		699	801		2173	2398
Deaths from pneumonia this period		24	48		79	127

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Update: AIDS Surveillance, San Francisco

As of February 28, 1989, 6,103 cases of acquired immunodeficiency syndrome (AIDS) had been reported to the San Francisco Department of Public Health, corresponding to an incidence of 822 cases per 100,000 population. Three thousand nine hundred fifty-six deaths have been reported, corresponding to a case-fatality rate of 65%.

Risk Group and Gender. The majority of cases continue to occur among homosexual and bisexual men (5,155, 85%) (Table 1). Homosexual and bisexual men who also use drugs intravenously represent the second largest risk group, with 690 (11%) cases to date. Heterosexual intravenous drug users (IVDUs) constitute 2% of the total cases to date. Other transmission categories include hemophiliacs (11, <1%); heterosexual contact with a person with AIDS or at risk for AIDS (33, <1%); transfusion recipients (68, 1%); children infected through perinatal transmission (7, <1%); and persons with unknown transmission categories, including patients on whom risk information is incomplete (due to death, refusal to be interviewed, or loss to follow-up), patients still under investigation, men reported to have had heterosexual contact with a prostitute, and interviewed patients for whom no specific risk was identified (28, <1%). Seventy cases (1%) have occurred in females, and 6,033 (99%) in males.

Although the majority of San Francisco AIDS patients are homosexual and bisexual males, an increasing percentage of cases are occurring in other risk groups (Table 2). Since 1981, the percentage of San Francisco AIDS patients who are homosexual and bisexual males has decreased from 98% to 94%, while the proportions for other risk groups, including IVDUs and non-IVDUs, have increased.

Race/Ethnicity. AIDS cases in San Francisco continue to occur primarily among whites (Table 3). To date, 5,046 (83%) patients are white, 501 (8%) are Latino, 436 (7%) are black, 112 (2%) are Asian/Pacific Islanders, and 8 (<1%) are Native Americans. Among the 112 Asians/Pacific Islanders, 51 (46%) are Filipino, 24 (21%) are Japanese, 21 (19%) are Chinese, 8 (7%) are Polynesian/Hawaiian, 6 (5%) are Vietnamese, and 2 (2%) are in other Asian/Pacific Islander ethnic groups.

Among patients other than homosexual and bisexual men, minorities are disproportionately represented (Table 3). Eighty-four percent of homosexual and bisexual men with AIDS are white. In contrast, among heterosexual IVDUs, 35% are white, 46% are black, 16% are Latino, and 3% are Asian/Pacific Islanders. For other transmission categories, 54% of patients are white, 22% black, 13% Latino, and 10% Asian/Pacific Islander.

Using 1980 census data to examine the incidence of AIDS by race/ethnicity, whites have the highest incidence of AIDS in San Francisco (1,398/100,000), followed by Latinos (595/100,000), blacks (517/100,000), Native Americans (237/100,000), and Asians and Pacific Islanders (78/100,000) (Table 4).

Age. Twenty cases (<1%) have occurred in persons under 20 years of age; 793 cases (13%) have occurred in persons aged 20-29 years; 2,994 cases (49%) in persons aged 30-39 years; 1,670 cases (27%) in persons aged 40-49 years; 494 cases (8%) in persons aged 50-59 years; and 132 cases (2%) in persons aged 60 and over.

Diagnoses. In September, 1987, the Centers for Disease Control revised the national surveillance case definition for AIDS, allowing presumptive

diagnoses of cerebral toxoplasmosis, *Pneumocystis carinii* pneumonia, cytomegalovirus retinitis, Kaposi's sarcoma, disseminated mycobacterial infection, and esophageal candidiasis (1) and expanding the list of diseases indicative of AIDS to include human immunodeficiency virus (HIV) encephalopathy, HIV wasting syndrome, and a broader range of opportunistic infections and malignancies. Of 1,942 patients reported and diagnosed after the revisions went into effect, 1,631 (84%) met the old case definition and 311 (16%) met only the revised case definition. Thus the revised AIDS case definition has increased case reporting by 19%.

The majority of San Francisco AIDS patients presented initially with *Pneumocystis carinii* pneumonia (PCP) (3,311 patients, 54%), including both definitively and presumptively diagnosed patients. A total of 1,521 patients (25%) presented initially with Kaposi's sarcoma. Patients with an initial diagnosis of non-Hodgkin's lymphoma constitute 3% of the total (191 patients). Other opportunistic infections diagnosed include: cryptococcosis (181, 3%); candidiasis (141, 2%); *Mycobacterium avium* or *kansasii* (102, 2%); toxoplasmosis (101, 2%); cytomegalovirus (97, 2%); cryptosporidiosis (94, 2%); and extrapulmonary *Mycobacterium* tuberculosis (31, <1%). In addition, 101 patients (2%) presented with HIV encephalopathy, and 94 patients (2%) presented with HIV wasting syndrome.

Reported by the Surveillance Branch, AIDS Office

Editorial Note: All cases of AIDS diagnosed in San Francisco are required to be reported to the Department of Public Health. Previous studies comparing cases of AIDS with death certificates, pathology and laboratory logs, medical records, and requests for pentamidine and ansamycin have shown that 98% of the cases of AIDS that are diagnosed in San Francisco are reported (2).

The epidemiology of AIDS in San Francisco continues to differ from the patterns reported for the entire United States. Nationally, 9% of patients are female, in contrast to 1% in San Francisco (3). Nationally, 69% of AIDS patients are homosexual and bisexual men (including those who report using drugs intravenously), and 20% are heterosexual IVDUs. This contrasts with the epidemic in San Francisco, where 95% are homosexual and bisexual men, and 2% are heterosexual IVDUs. However, the percentage who are homosexual and bisexual men with AIDS in San Francisco has dropped from 98% to 94% since 1981 and the percentage who are heterosexual IVDUs has risen from 0 to 4%. In addition, 42% of AIDS patients nationally are non-white, compared to 17% in San Francisco, although non-whites are disproportionately represented among AIDS patients other than homosexual and bisexual men.

An earlier study of the impact of the revised AIDS surveillance case definition, examining San Francisco's first four months experience with the revision, also found a 19% increase in reporting due to the new definition (4). This increase has continued in San Francisco, 17 months after the revised case definition was instituted. Studies in other areas have found a similar increase in the number of reported AIDS cases due to the revised case definition. Increased AIDS case reporting due to the new definition has ranged from 21% to 24% in published studies from the United States and Spain (5-9).

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Table 1. Reported AIDS cases by transmission category and gender, San Francisco (cases reported through February 28, 1989)

	Male		Female		Total	
Transmission Category	N	(%)	N	(%)	N	(%)
Homosexual/Bisexual Male	5155	(85)	0	(-)	5155	(84)
Intravenous Drug User	88	(1)	23	(33)	111	(2)
Homosexual/Bisexual IVDU	690	(11)	0	(-)	690	(11)
Hemophiliac	11	(<1)	0	(-)	11	(<1)
Heterosexual Contact[1]	14	(<1)	19	(27)	33	(<1)
Transfusion Recipient	45	(<1)	23	(33)	68	(1)
Child of High-Risk Parent[2]	3	(<1)	4	(6)	7	(<1)
None of the Above/Other	27	(<1)	1	(1)	28	(<1)
	6033	(100)	70	(100)	6103	(100)

(1) Includes persons who have had heterosexual contact with a person with AIDS or at risk for AIDS and persons without other identified risks who were born in countries in which heterosexual transmission is believed to play a major role although precise means of transmission have not been defined.
(2) Epidemiologic data suggest transmission from an infected mother to her fetus or infant during the perinatal period.

Table 2. San Francisco AIDS cases by year of diagnosis and transmission category

		Other		
Year of Diagnosis	Homosexual/ Bisexual Men N (%)	Hetero-sexual IVDU N (%)	Non-IVDU N (%)	Total N
≤ 1982	130 (97)**	0 --	4 (3)	134
1983	289 (98)	2 (<1)	4 (1)	295
1984	565 (98)	6 (1)	6 (1)	577
1985	845 (96)	10 (1)	22 (3)	877
1986	1241 (96)	23 (2)	26 (2)	1290
1987	1410 (96)	23 (2)	37 (3)	1470
1988	1246 (94)	46 (4)	41 (3)	1333
1989*	119 (94)	1 (<1)	7 (6)	127
Total	5845	111	147	6103

* cases reported as of February 28, 1989
** row percentage

Table 3. San Francisco AIDS cases by transmission category and race/ethnicity (cases reported through February 28, 1989)

	Race/Ethnicity										
	White		Black		Latino		Asian/Pacific Islander		Native American		Total
Risk Group	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N
Homosexual/ Bisexual Men	4344	(84)*	294	(6)	423	(8)	89	(2)	-		5155
IV Drug User	39	(35)	51	(46)	18	(16)	3	(3)	-		111
Homosexual/ Bisexual IVDU	583	(84)	59	(9)	41	(6)	5	(4)	-		690
Other	80	(54)	32	(22)	19	(13)	15	(10)	-		147
Total	5046	(83)	436	(7)	501	(8)	112	(2)	8	(4)	6103

* row percentage

Table 4. AIDS incidence by race/ethnicity, San Francisco (cases reported through February 28, 1989)

Race/Ethnicity	Number of Cases	Rate per 100,000*	RR**	95% CI
White	5046	1398	- -	
Latino	501	595	0.43	(0.39, 0.47)
Black	436	517	0.37	(0.34, 0.41)
Native American	8	237	0.17	(0.09, 0.33)
Asian/Pacific Islander	112	78	0.06	(0.05, 0.07)
Total	6103	822		

* population figures from 1980 census
** rate ratio, using whites as reference group, $p < .05$

REPORTABLE DISEASES AND/OR CONDITIONS

The list of reportable diseases under Title 17 of the Health and Safety Code has been revised, effective March 31, 1989. The updated list is provided below. Additions include; Alzheimer's disease, chlamydia infections (including trachoma), cryptosporidiosis, cysticercosis, Kawasaki syndrome, Lyme disease, non-gonococcal urethritis, and pelvic inflammatory disease.

Communicable Diseases:

Acquired Immune Deficiency Syndrome (AIDS)
\+ Amebiasis
* Anthrax
* Botulism (Infant, Foodborne, Wound)
Brucellosis
\+ Campylobacteriosis
Chancroid
Chlamydial Infections
* Cholera
Coccidioidomycosis
\+ Conjunctivitis, Acute Infectious of the Newborn, Specify Etiology
Cryptosporidiosis
Cysticercosis
* Dengue
* Diarrhea of the Newborn, Outbreaks
* Diphtheria
\+ Encephalitis, Specify Etiology: Viral, Bacterial, Fungal, Parasitic
\+ # Foodborne Illness (Other than Botulism)
Giardiasis
Gonococcal Infections
Granuloma Inguinale
\+ Haemophilus Influenzae, Invasive Disease
\+ Hepatitis A
Hepatitis B, Cases and Carriers (Specify)
Hepatitis, Delta (D)
Hepatitis, Non-A, Non-B
Hepatitis, Unspecified
Kawasaki Syndrome (Mucocutaneous Lymph Node Syndrome)
Legionellosis
Leprosy (Hansen's Disease)
Leptospirosis
\+ Listeriosis
Lyme Disease
Lymphogranuloma Venereum (Lymphogranuloma Inguinale)
\+ Malaria
\+ Measles (Rubeola)
\+ Meningitis, Specify Etiology: Viral, Bacterial, Fungal, Parasitic
\+ Meningococcal Infections
Mumps
Non-Gonococcal Urethritis (Excluding Laboratory Confirmed Chlamydial Infections)
Pelvic Inflammatory Disease (PID)
\+ Pertussis (Whooping Cough)
* Plague
\+ Poliomyelitis, Paralytic
\+ Psittacosis
\+ Q Fever
* Rabies, Human or Animal
\+ Relapsing Fever
Reye Syndrome
Rheumatic Fever, Acute
Rocky Mountain Spotted Fever
Rubella (German Measles)
\+ Salmonellosis (Other than Typhoid Fever)
\+ Shigellosis
\+ # Streptococcal Infections (Outbreaks and Cases in Food Handlers and Dairy Workers Only)
\+ Syphilis
Tetanus
Toxic Shock Syndrome
\+ Trichinosis
Tuberculosis
Tularemia
\+ Typhoid Fever, Cases and Carriers
Typhus Fever
* Yellow Fever

Non-communicable Diseases or Conditions:

Alzheimer's Disease and Related Conditions
Disorders Characterized by Lapses of Consciousness

The urgency of reporting each disease or condition is indicated by the following symbols:

* To be reported immediately by telephone.
\+ To be reported by mailing a report or telephoning within one (1) working day of identification of the case or suspected case.
\# When two (2) or more cases or suspected cases of foodborne illness from separate households are suspected to have the same source of illness, they should be reported immediately by telephone.
All other conditions are to be reported within seven (7) calendar days from the time of identification.

Reporting numbers: AIDS 621-5979, STDs 864-8100, TB 558-4436, all other diseases and conditions 554-2830.

For reporting of outbreaks and unusual and rare diseases, refer to sections 2502 and 2503 of the California Health and Safety Code, or call 554-2830.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING April 29, 1989

DISEASE	CASES REPORTED WEEKS 13 THROUGH 17			TOTAL CASES REPORTED TO DATE		
	1987	1988	1989	1987	1988	1989
AIDS	104	161	282	423	586	673
AMEBIASIS	41	43	28	113	126	74
CAMPYLOBACTER	46	45	53	139	157	189
COCCIDIOIDOMYCOSIS	1	-	1	1	1	4
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	107	71	73	280	230	214
GIARDIASIS	19	47	32	83	112	102
GONORRHEA	502	686	467	1901	2299	1827
HEPATITIS Type A	28	28	28	66	86	75
HEPATITIS Type B	17	5	9	65	30	29
HEPATITIS Non A-Non B	2	1		10	10	
HEPATITIS Type Unspecified	1		1	2		5
LEPROSY	-	-	1	4	1	2
MALARIA	-	2	10	5	6	15
MEASLES	5	-	1	8	5	1
MENINGITIS, BACTERIAL	-	-	3	3	2	9
MENINGITIS, VIRAL	-		2	1		6
MUMPS	1	1		1	2	
PERTUSSIS	1	1	-	2	1	1
PSITTACOSIS						
RUBELLA	-			1		
SALMONELLOSIS	17	18	19	73	74	62
SHIGELLOSIS	40	26	54	131	119	142
SYPHILIS, Total	57	62	69	203	195	222
SYPHILIS, Primary & Secondary	23	17	27	80	72	75
TUBERCULOSIS (all forms)	41	39	23	99	126	87
TYPHOID FEVER	-	4	2	1	7	4

Total deaths reported this period	858	878	3031	3276
Deaths from pneumonia this period	21	36	100	163

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Vol. 5, No. 7 July 1989

SF
P70
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Tuberculosis in San Francisco, 1988: Final Data

Three hundred and thirteen cases of new active tuberculosis were reported in San Francisco in 1988. This represents nine fewer cases than in 1987 (1), but more than in any other year since 1981. In 1981, there were 387 cases, due mainly to the influx of refugees from Southeast Asia with tuberculosis. The incidence rate in 1988 was 42.6/100,000 - more than 4 times the incidence in the United States overall. Nationally, the number of reported cases of new active tuberculosis has remained essentially stable since 1984, following a long-standing secular decline in cases averaging 5-7% per year since 1953, the year in which collection of national statistics began (2).

The largest number of San Francisco cases in 1988 occurred among 25 to 44 year-olds, the age group most impacted by acquired immunodeficiency syndrome (AIDS) (Table 1). Both the number of cases and the percentage of all cases occurring in this age group were higher than in any year since 1980, with the exception of 1987.

Table 1. Tuberculosis cases by age, San Francisco - 1988

age	Number of cases	% of total cases
0-4	5	1.6
5-14	7	2.2
15-24	26	8.3
25-44	123	39.3
45-64	83	26.5
65+	69	22.0

Five cases of active tuberculosis were reported in the 0 to 4 year-old age group, up from only two in 1987. Cases in this age group clearly reflect recent transmission of tuberculosis, usually in the family setting.

The elderly (65 years and over) made up only 22% of all cases in 1988. This pattern has been relatively consistent since 1984. Fifty-three percent of cases diagnosed and reported post-mortem are among the elderly.

In 1988, 199 cases (63.6%) were male. The male:female ratio was 1.4:1 in those under age 25, and rose to 1.8:1 for those over 25 years old. Male predominance was most marked in non-Hispanic whites, ages 25 to 64, where the male:female ratio was 5.9:1. Age and ethnicity of reported cases among males and females are shown in Figures 1 and 2.

The foreign-born comprised up to 75% of all reported cases in the early 1980's. In 1988, 58% of all cases were foreign-born, the same as in 1987. The increase in cases in 1987 and 1988 has occurred among the U.S. born, indicative of the influence of HIV infection (Figure 3).

In 1988, Asians/Pacific Islanders made up 42.8% of all cases, whites 20.1%, blacks 17.3%, Hispanics 18.2%, and others 1.6%. Chinese made up 50% of the Asian cases, and Filipinos 33%. Central Americans made up almost half (42%) of San Francisco's Hispanic cases.

The lungs were the site of tuberculosis disease in 247 cases, 78.9% of the total. In 225 cases (71.9%) the lungs were the only site of disease. In 22 cases (7.0%) the lungs and at least one extra-pulmonary site were involved. In 66 cases (21.1%) only extra-pulmonary disease was present (Table 2).

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Table 2. Extra-pulmonary sites of disease, San Francisco - 1988

Site	Number of cases	% of all extra-pulmonary cases
Lymphatic	34	39
(Intrathoracic)	(4)	(5)
Pleural	17	19
Genito-urinary	8	9
Miliary	6	7
Meningeal	5	6
Peritoneal	3	3
Bone and/or joint	2	2
Other	13	15

Twenty persons with tuberculosis in 1988 also had a non-tuberculosis related AIDS diagnosis. An additional 15 patients had an extra-pulmonary site of tuberculosis in the presence of a positive HIV antibody test, thus meeting the 1987 revision of the Centers for Disease Control AIDS case definition (3).

Editorial note: Factors that contribute to the high case rate in San Francisco include ongoing immigration from the Far East and Central America (areas of the world with a high incidence of tuberculosis), a large homeless population, and reactivation of latent tuberculosis infection in persons infected with human immunodeficiency virus (HIV). The pattern of tuberculosis in San Francisco is changing. While Asians and the foreign-born continued to have significant morbidity from tuberculosis, HIV immune suppression appears to contribute to the case numbers. Evidence includes a high incidence of extra-pulmonary sites of disease, and a shift towards diagnosis of tuberculosis in 25 to 44 year-old males, the population hardest hit by the AIDS epidemic.

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Pediatric Announcement

It is the policy of both the San Francisco Unified School District and the Office of Catholic Schools/ Archdiocese of San Francisco that all new school entrants be tested for tuberculin sensitivity. The preferred test is the 5 TU Tween-stabilized PPD given by Mantoux technique. Results should be recorded in millimeters of induration. All reactions of 10 mm or greater should be followed by a chest x-ray to ascertain whether current disease is present. For further information, contact the Tuberculosis Control Division, 558-4436.

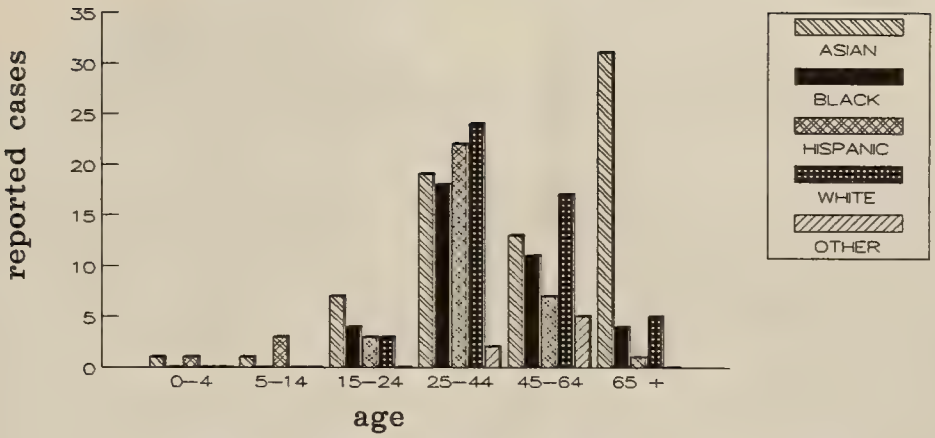

Figure 1. Reported San Francisco tuberculosis cases in males by age and race/ethnicity, 1988

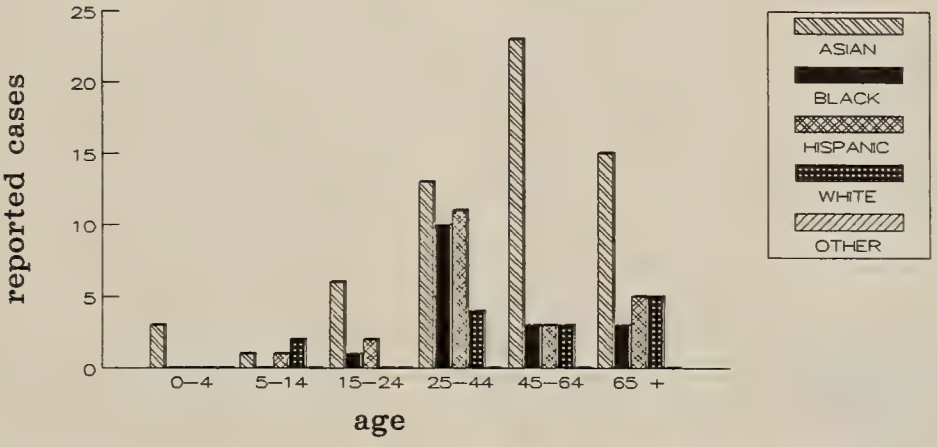

Figure 2. Reported San Francisco tuberculosis cases in females by age and race/ethnicity, 1988

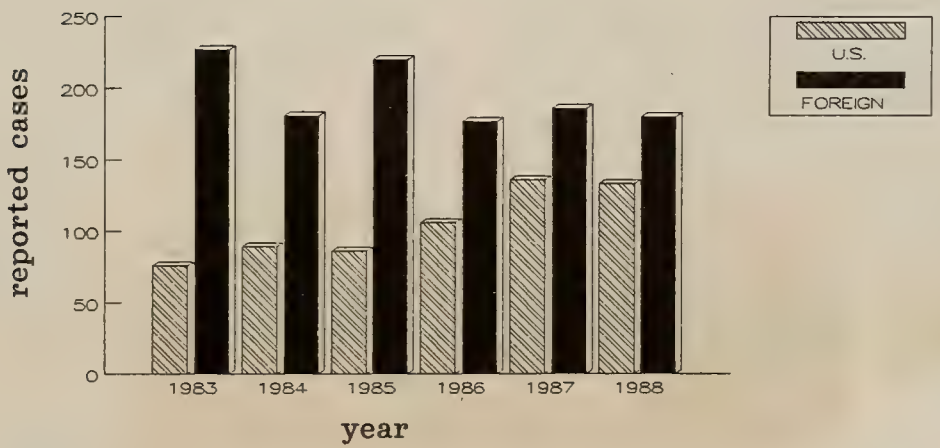

Figure 3. Reported San Francisco tuberculosis cases by year of report and place of birth, 1983-1988

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REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING May 27, 1989

DISEASE	CASES REPORTED WEEKS 18 THROUGH 21			TOTAL CASES REPORTED TO DATE		
	1987	1988	1989	1987	1988	1989
AIDS	114	124	149	537	710	822
AMEBIASIS	35	23	25	148	149	99
CAMPYLOBACTER	32	49	49	171	206	238
COCCIDIOIDOMYCOSIS	–	–	–	1	1	4
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	47	55	46	327	285	260
GIARDIASIS	17	32	30	100	144	132
GONORRHEA	502	495	370	2403	2794	2197
HEPATITIS Type A	18	25	33	84	111	108
HEPATITIS Type B	16	8	12	81	38	41
HEPATITIS Non A-Non B	–	1	2	10	11	2
HEPATITIS Type Unspecified	–	1	1	2	1	6
LEPROSY	2	–	1	6	1	3
MALARIA	1	3	4	6	9	19
MEASLES	–	–	–	8	5	1
MENINGITIS, BACTERIAL	–	–	1	3	2	10
MENINGITIS, VIRAL	–	2	–	1	2	6
MUMPS	–	1		1	3	
PERTUSSIS	–	–	–	2	1	1
PSITTACOSIS						
RUBELLA	–		1	1		1
SALMONELLOSIS	7	16	18	80	90	80
SHIGELLOSIS	33	29	34	164	148	176
SYPHILIS, Total	56	41	47	259	236	269
SYPHILIS, Primary & Secondary	20	13	16	100	85	91
TUBERCULOSIS (all forms)	30	19	25	129	145	112
TYPHOID FEVER	–	2	1	1	9	5
Total deaths reported this period		672	618		3703	3894
Deaths from pneumonia this period		11	20		111	183

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Vol. 5, No. 8 August 1989

Continued Seroconversion for HIV Antibody among Homosexual and Bisexual Men

Prospective cohort studies of human immunodeficiency virus (HIV) infection in homosexual and bisexual men in San Francisco have strongly indicated that the seroconversion rate for HIV antibody during the last several years has been low (1,2). In large measure, this reflects major behavioral changes that have taken place in the gay community, including a marked reduction in the frequency of high-risk sexual practices (1-3). Among one group of homosexual and bisexual men enrolled in the San Francisco City Clinic Cohort Study, the annual incidence of HIV infection among seronegative men was highest in 1980-1982 (Figure 1). Seroconversion rates began dropping in 1983, and have remained low, with a seroconversion rate of 0% in 1987 and 3% in 1988 (1). Data for homosexual and bisexual men enrolled in the San Francisco Men's Health Study suggest similar trends, with a seroconversion rate of approximately 1% for 1988 (2, Warren Winkelstein, M.D., M.P.H., personal communication). Although men enrolled in these studies may not be representative of all homosexual and bisexual men in San Francisco, city-wide data for male gonococcal proctitis suggest that these findings are generalizable to many other homosexual and bisexual men; rectal gonorrhea cases in San Francisco have steadily declined from over 5,000 cases in 1980 to 169 reported cases in 1988 (1).

Despite these declines, current information, including data from prospective studies, indicates that some homosexual and bisexual men are continuing to seroconvert for HIV antibody, primarily in association with unsafe sexual practices. Analysis of men who have seroconverted during the last several years indicates that unprotected receptive and insertive anal intercourse remain the primary risk factors for seroconversion (2,4). Behavioral data from 14 men enrolled in the San Francisco City Clinic Cohort Study who seroconverted between 1986 and 1988 were compared to a matched control sample of men who remained seronegative during the same period (4). Men were asked about specific sexual practices, as well as number of sexual partners who were steady (defined as a partner whom the participant had sex with on >2 occasions) and nonsteady. For the interval between their last seronegative and first seropositive blood specimen, seroconverters were more likely to report >1 steady sexual partner ($p=.03$), and unprotected receptive ($p=.06$) and insertive anal intercourse ($p=.08$). Three seroconverters reported only 1 to 2 episodes of unprotected anal intercourse. Data from two other San Francisco cohorts of homosexual and bisexual men evaluated between 1984 and 1987 also identified number of male sexual partners and receptive anal intercourse as the risk factors most significantly associated with new HIV infections (5).

Personal histories of recent seroconverters reveal a variety of circumstances and beliefs associated with HIV seroconversion. Two seroconverters reported heavy use of alcohol and had engaged in unsafe sex while intoxicated. Two men reported that they considered insertive anal intercourse without a condom to be low risk for HIV infection. One seroconverter felt that unprotected receptive anal intercourse was safe as long as ejaculation did not occur. One

man felt that he was unlikely to be infected because he had only one or two incidents of unprotected anal intercourse during the preceding year. Another man felt that his sexual partners were unlikely to be infected because they appeared to be in good health.

In the San Francisco City Clinic Cohort Study, men were also asked about their sexual practices during a typical 4-month period. Of 260 seronegative men who have been interviewed to date during 1989, 58 (29%) men reported at least one episode of unprotected anal intercourse during this period. Forty-nine (25%) respondents reported unprotected intercourse with a steady partner, while only 10 (5%) reported unprotected intercourse with a nonsteady partner (one man reported both steady and nonsteady partners).

Information from the AIDS Behavioral Research Project, which includes an annual community-based survey, suggests that a majority of homosexual and bisexual men who recently engaged in unsafe sexual activities had previously engaged in safe sexual activities but subsequently "relapsed". Of 73 men interviewed during 1987 who reported unprotected anal intercourse with a non-monogamous partner, 56 (77%) reported at least one previous year between 1984 and 1986 when they did not engage in this high-risk activity (Ron Stall, Ph.D., personal communication).

Reported by Research Branch, AIDS Office, San Francisco Department of Public Health; Ron Stall, Ph.D., Center for AIDS Prevention Studies, University of California, San Francisco; and Warren Winkelstein, M.D., M.P.H.; School of Public Health, University of California, Berkeley

Editorial note: Although homosexual and bisexual men have made dramatic changes in sexual practices, some men are currently engaging in high-risk sexual practices and are becoming infected with HIV. Unsafe sexual practices include unprotected receptive and insertive anal intercourse; although multiple partners increases the risk of HIV infection, some persons have seroconverted after unsafe contacts with only 1 or 2 partners. Seroconversion has also been reported in a small number of men who reported only insertive and receptive oral intercourse (4,6,7).

Behavioral studies have suggested that substance abuse (including use of alcohol) may increase the likelihood of engaging in high-risk sexual behaviors (8). It is also of concern that some persons are misinformed about HIV and risk factors for transmission, including believing that insertive anal intercourse or receptive anal intercourse without ejaculation are safe, and that it is possible to tell if someone is HIV-infected by how healthy they appear.

Finally, the relationship with one's primary or steady sexual partner appears to be an important factor in the decision to engage in high-risk sexual practices or to not use condoms during intercourse. Behavioral studies indicate that this decision may be based on a number of factors, including knowledge of a partner's antibody status, the existence of a monogamous relationship, the partner's preferences, and the ability to effectively discuss sexual practices such as condom use with the partner (Lynda Doll, Ph.D., personal communication).

Homosexual and bisexual men represent the great majority of persons with AIDS and HIV-infection in San Francisco (9). Randomized community-based studies in San Francisco suggest that approximately 50% of homosexual and bisexual men are currently infected with HIV (2,10). The occurrence of recent seroconversions and the high prevalence of HIV infection underscore the need for continued behavioral research and for continued prevention and education activities within and targeted towards the gay community.

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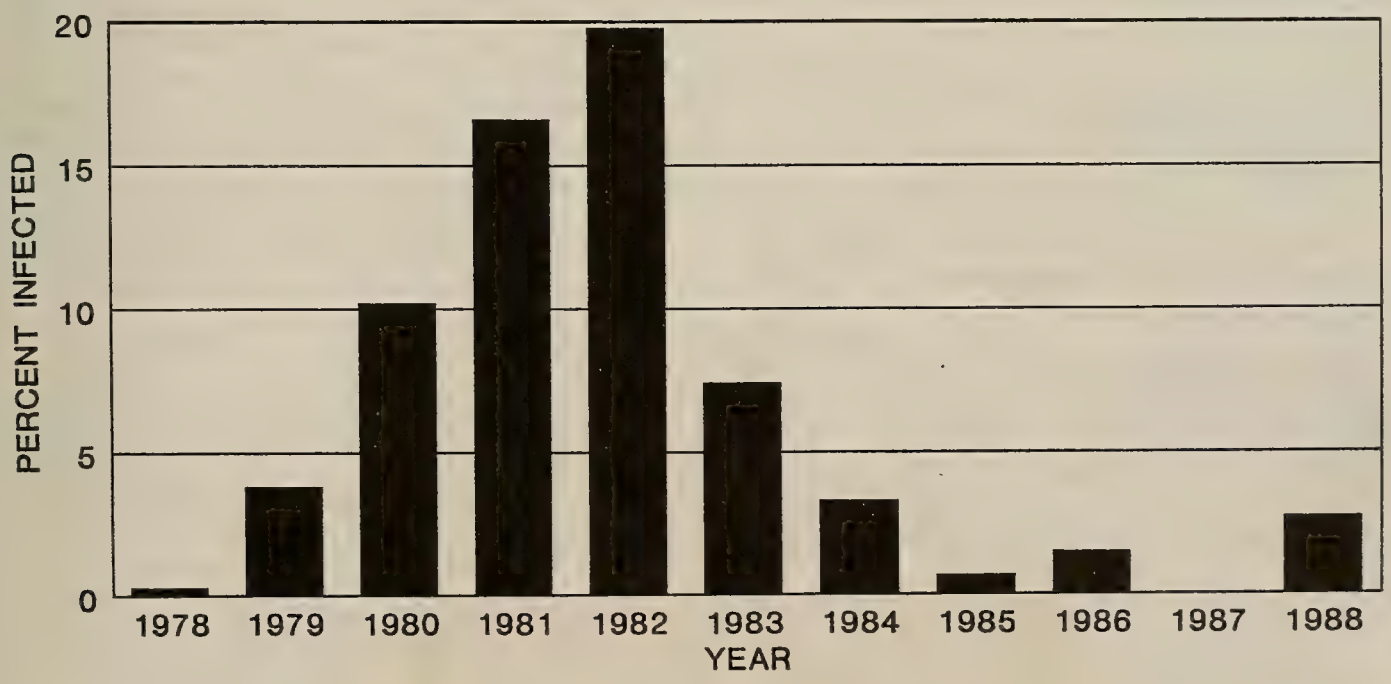

Figure 1. Incidence of HIV infection among hepatitis B vaccine trial participants by year, San Francisco City Clinic Cohort Study, 1978-1988.

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REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING July 1, 1989

DISEASE	CASES REPORTED WEEKS 22 THROUGH 26			TOTAL CASES REPORTED TO DATE		
	1987	1988	1989	1987	1988	1989
AIDS	95	144	187	632	854	1009
AMEBIASIS	49	35	48	197	184	147
CAMPYLOBACTER	40	57	69	211	263	307
COCCIDIOIDOMYCOSIS	-	1	-	1	2	4
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	77	64	66	404	349	326
GIARDIASIS	29	43	55	129	187	187
GONORRHEA	581	577	456	2984	3371	2653
HEPATITIS Type A	14	38	20	98	149	128
HEPATITIS Type B	18	10	6	99	48	47
HEPATITIS Non A-Non B	1	2	2	11	13	4
HEPATITIS Type Unspecified	1	-	-	3	1	6
LEPROSY	2	-	-	8	1	3
MALARIA	2	-	7	8	9	26
MEASLES	2	-	1	10	5	2
MENINGITIS, BACTERIAL	1	1	1	4	3	11
MENINGITIS, VIRAL	-	-	4	1	2	10
MUMPS	1	-		2	3	
PERTUSSIS	1	-	1	3	1	2
PSITTACOSIS						
RUBELLA	3		-	4		1
SALMONELLOSIS	23	17	15	103	107	95
SHIGELLOSIS	43	47	29	207	195	205
SYPHILIS, Total	99	80	61	358	316	330
SYPHILIS, Primary & Secondary	25	38	24	125	123	115
TUBERCULOSIS (all forms)	34	29	27	163	174	139
TYPHOID FEVER	-	1	1	1	10	6
Total deaths reported this period		812	775		4515	4669
Deaths from pneumonia this period		24	33		135	216

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Vol. 5, No. 9 September 1989

Lyme Disease in San Francisco

Lyme disease, first identified in 1977 in Old Lyme, Connecticut (1) became a reportable disease in the state of California in March 1989. The Bureau of Communicable Disease Control has received case reports since 1986, with four cases in 1986, seven in 1987, thirteen in 1988, and two in the first six months of 1989. Of the 26 total cases, 17 occurred in San Francisco residents, although one had insufficient information to determine whether it met the case definition. The 16 remaining San Francisco patients ranged from 3 to 58 years of age (three were less than 20). Fourteen (82%) were white, one Asian, one of unknown race; thirteen (81%) were female. This is an over-representation of white cases for our population (approximately 50% white), and a much larger proportion of females than described in other areas (40-50%)(2,3). Four patients reported tick exposure outside California, ten reported exposures in San Francisco, Lake, San Mateo, San Luis Obispo, Marin and Mendocino counties. Two patients had no reported exposure. Two of the sixteen cases were associated with tick bites acquired within San Francisco; another patient had no history of travel outside the city in the 30 days prior to onset.

Editorial Note

Case Definition. The diagnosis of Lyme disease (Lyme borreliosis) is based on clinical and epidemiologic evidence. Antibodies to *Borrelia burgdorferi*, the spirochete recognized as the cause of the disease, are usually assayed by indirect fluorescent antibody staining or by enzyme linked immunosorbent assay. Testing may yield either false negative or false positive results. Syphilis serology testing should be performed on all patients with positive Lyme serology because of a significant cross reaction with *Treponema pallidum*. Because laboratory diagnosis is uncertain, a case definition has been developed to aid in reporting:

1. The occurrence of erythema migrans (EM) no greater than 30 days following exposure in an endemic area, i.e., an area where vector ticks are known to exist; **OR**
2. The involvement of at least one of the three commonly affected organ systems, producing neurologic, cardiovascular or arthritic symptoms **AND** either
   a. a positive serology, or
   b. isolation of *B. burgdorferi;*
   OR
3. EM and a positive serology without a history of exposure.

Occurrence. In California and the western states Lyme borreliosis is transmitted by *Ixodes pacificus*, the black-legged deer tick. Most counties in California, including San Francisco, have been designated as *I. pacificus* endemic areas. While many California counties are known to harbor infected ticks, the level of infection is much lower than in East coast endemic areas where as high as 50% of the carrier species of ticks are infected. In California 1-2% of *I. pacificus* are thought to be infected in most endemic areas and about 3% in certain localized geographic areas. *Ixodes pacificus* is only one of 49 species of ticks in the state.

Diagnosis. Lyme disease has been described as occurring in stages with different clinical manifestations at each stage. The classic picture includes erythema migrans (stage 1), followed several weeks or months later by neurologic symptoms (stage 2), and followed months or years later by arthritis (stage 3). However, variations from this pattern are sufficiently common to make diagnosis difficult. Many patients do not

demonstrate classic erythema migrans or second stage symptoms. Symptoms such as Bell's palsy, meningitis, cardiac arrythmias and arthritis are not specific to Lyme disease. Culture or direct visualization of *B. burgdorferi* from patient specimens is difficult, and serologic testing is not yet standardized, so that results from different laboratories or commercial test kits may vary. False negative serologic results occur primarily during the first several weeks of infection. False positive results may occur both in healthy patients and in patients with a variety of other diseases. The protean manifestations of Lyme disease combined with the problems of serologic testing make diagnosis difficult. However, recent emphasis by the media has probably made Lyme disease an overdiagnosed infection.

Treatment. Treatment of Lyme disease is most successful when given early. Doxycycline, tetracycline and amoxicillin have been used for treatment of early disease. These drugs, as well as IV penicillin have been investigated for treatment of stage 3 disease, which is less successful (4,5).

Questions frequently arise regarding antibiotic treatment of tick bites prior to onset of any symptoms. The decision to treat is based, in large part, on the likelihood that infection has occurred. This depends on where the tick was acquired, what kind of tick it was, and how long the tick remained attached or how engorged it was at the time of removal. Treatment would not be recommended for most asymptomatic patients following a tick bite acquired in California. The laboratory of the State Department of Health Services is unable to examine ticks for the presence of *B. burgdorferi*, although public health biologists will attempt to identify the tick species.

Prevention. Prevention of Lyme disease includes avoidance of brushy areas where ticks are acquired, the use of protective clothing and insect repellants, and inspection of the body and removal of ticks at least daily after exposure in brush areas. Ticks spend some time on the body before attachment; periodic examination of the body may prevent attachment, and early removal of attached ticks may prevent transmission. It is thought that at least several hours of attachment are necessary before the infected tick transmits the spirochete (6). An instrument such as tweezers should be used to grasp the attached tick as close to the skin as possible, followed by the application of steady traction directly away from the body while taking care to avoid crushing the body of the tick. If fingers are used for removal, they should be protected by gloves or a tissue to avoid contamination by potentially infectious tick fluids. The bite area should be disinfected after tick removal.

Cases of Lyme disease should be reported directly to the Bureau of Communicable Disease Control at 101 Grove Street, San Francisco, CA 94102 by mail, or by calling 554-2830.

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Guidelines for 1989-90 Influenza Vaccine Use*

Vaccination of high-risk persons each year before the influenza season is the single most important measure for reducing the impact of influenza. The target groups for immunization include:

A. Groups at increased risk of influenza-related complications.

1. Adults and children with chronic disorders of the cardiovascular or pulmonary systems requiring regular medical followup or hospitalization during the preceding year.
2. Residents of nursing homes and other chronic care facilities housing patients of any age with chronic medical conditions.
3. Persons ≥55 years of age.
4. Adults and children who have required regular medical followup or hospitalization during the preceding year because of chronic metabolic diseases (including diabetes mellitus), renal dysfunction, anemia, or immunosuppression, including symptomatic HIV infection.
5. Children and teenagers (six months through 18 years of age) who are receiving long-term aspirin therapy and, therefore, may be at risk of developing Reye syndrome following influenza infection.

B. Groups potentially capable of transmitting influenza to high-risk persons.

1. Physicians, nurses, and other personnel in both hospital and out-patient settings who have extensive contact with high-risk patients in all age groups, including infants.
2. Providers of care to high-risk persons in the home setting (e.g., visiting nurses, volunteer workers).
3. Household members (including children) of high-risk groups.

Immunodeficient Persons. Because influenza vaccine contains only non-infectious viruses it cannot cause influenza. However, the ability of immunodeficient persons to respond by developing antibodies is unknown and probably varies from individual to individual. These people can be protected in some measure by immunization of those around them, including caregivers.

San Francisco Comment:

The kickoff for the annual flu campaign will be held at the Aquatic Park Branch of the San Francisco Senior Centers on October 19. Immunizations will be available at the five Department of Public Health District Health Centers on the mornings of November 7, 9, 14 & 16 and at the OMI Wellness Center on November 15. Final clinics will be at Health Center #5 on Saturday, November 18 and at 50 Ivy Street November 20 through December 30. The Bureau of Communicable Disease Control will make vaccine available to clinics and physicians.

The 1989-90 vaccine contains three strains: A/Taiwan/1/86(H1N1), A/Shanghai/11/87(H3N2), and B/Yamagata/16/88. One of the three strains is expected to be prevalent in the San Francisco area beginning in late November or early December. Determination of outbreaks of influenza depends on rapid notification by providers. Any unusual incidence of respiratory infection should be reported immediately by telephone to the Bureau of Communicable Disease Control at 554-2830. Arrangements will be made for the collection of appropriate specimens, which will facilitate efforts to document the presence of influenza in the area.

**Adapted from MMWR 1989;38(17):303-311.*

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING July 29, 1989

DISEASE	CASES REPORTED WEEKS 27 THROUGH 30			TOTAL CASES REPORTED TO DATE		
	1987	1988	1989	1987	1988	1989
AIDS	121	106	126	753	960	1135
AMEBIASIS	29	21	31	226	205	178
CAMPYLOBACTER	21	43	58	232	306	365
COCCIDIOIDOMYCOSIS	1	2	-	2	4	4
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	56	55	65	460	404	391
GIARDIASIS	16	30	38	145	217	225
GONORRHEA	379	367	351	3363	3738	3004
HEPATITIS Type A	6	15	22	104	164	150
HEPATITIS Type B	5	7	7	104	55	54
HEPATITIS Non A-Non B	1	-	1	12	13	5
HEPATITIS Type Unspecified	-	1	-	3	2	6
LEPROSY	-	-	-	8	1	3
MALARIA	-	1	4	8	10	30
MEASLES	2	-	4	12	5	6
MENINGITIS, BACTERIAL	1	-	3	5	3	14
MENINGITIS, VIRAL	-	2	4	1	4	14
MUMPS	4	-		6	3	
PERTUSSIS	-	-	-	3	1	2
PSITTACOSIS						
RUBELLA	-		-	4		1
SALMONELLOSIS	19	12	21	122	119	116
SHIGELLOSIS	25	26	34	232	221	239
SYPHILIS, Total	70	24	49	428	340	379
SYPHILIS, Primary & Secondary	22	7	15	147	130	130
TUBERCULOSIS (all forms)	23	24	24	186	198	163
TYPHOID FEVER	-	-	-	1	10	6
Total deaths reported this period	634	607		5149	5276	
Deaths from pneumonia this period	14	17		149	233	

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Vol. 5, No. 10 October 1989

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Trends in HIV Seroprevalence at Anonymous Test Sites and among Different Risk Groups

The San Francisco Department of Public Health conducts two types of anonymous antibody screening programs: a clinic-based anonymous testing program and a physician-based confidential testing program. These programs were begun in 1985 to provide an alternative to blood donation as a method of human immunodeficiency virus (HIV) antibody screening, and to contribute to AIDS prevention programs.

An earlier report (1) provided basic demographic and HIV seroprevalence information for 37,411 clients tested during the period July 1, 1985 through February 29, 1988. A total of 8,046 clients (22%) were seropositive, 29,310 (78%) were seronegative, and 55 (<1%) were indeterminate. HIV seroprevalence declined markedly over time, possibly due to increased utilization by heterosexual clients and a drop in utilization by homosexual/bisexual men.

The present report further analyzes the decline in HIV seroprevalence by examining seroprevalence trends for specific risk groups, primarily heterosexual clients and homosexual/bisexual men. During the three-year period July 1985 through June 1988, 41,808 individuals visited anonymous test sites and physicians. Self-reported risk group information was available for 26,423 (63%) clients.

Overall seroprevalence was 23.1% for the three-year period. When clients were analyzed separately by risk group (Figure 1) and aggregated into three-month periods, HIV seroprevalence was relatively stable across time. Large fluctuations were apparent only among homosexual/bisexual intravenous drug users. In agreement with previous results, the highest seroprevalence rates were among homosexual/bisexual drug users (range, 50% to 72%) and homosexual/bisexual men (range, 33% to 44%). Seroprevalence for other risk groups was lower, including heterosexuals with multiple partners (0.5% to 5%), sexual partners of risk-group members (0.5% to 4%), and heterosexual intravenous drug users (3% to 12%) (Table 1). Utilization by homosexual/bisexual men dropped markedly during the study period, while utilization by heterosexuals increased (Figure 2). When total seroprevalence is weighted by risk group using July 1985 as the benchmark, seroprevalence is relatively constant across time (Figure 3).

Reported by the Surveillance Branch, AIDS Office, San Francisco Department of Public Health

Editorial Note. These results confirm the earlier suggestion (1) that HIV seroprevalence has dropped among anonymous test site (ATS) participants because lower risk individuals are being tested. In addition, the within risk-group HIV seroprevalence seems to have been relatively constant during the 36-month study period. Apparent fluctuations among homosexual/bisexual intravenous drug users were probably due to small sample size and resulting sampling variation.

Because ATS clients are self-selected, these data cannot be used to estimate HIV seroprevalence in the general population or within individual risk groups. For instance, the seroprevalence among homosexual and bisexual men, 33-44%, is slightly lower than the rates reported in cohort studies (2). Nonetheless, ATS data can be used to validate seroprevalence data from other sources and to give a rough indication of how many HIV-infected individuals have been diagnosed in San Francisco.

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Table 1. Seroprevalence by risk group, ATS program, San Francisco, 1985-1988

Quarter and Year	Homosexual/ Bisexual Men Non-IVDU		Heterosexual/ Multiple Partners		Sex Partner		Heterosexual IVDU		Homosexual/ Bisexual IVDU		Total Sample	
	N	% Sero+*	N	% Sero+**	N	% Sero+**	N	% Sero+**	N	% Sero+**	N	%Sero+*
1985												
3	2682	34	417	2	168	1	115	9	67	57	3621	27
4	2355	36	443	2	141	4	85	5	53	72	3239	27
1986												
1	1289	36	173	1	72	4	66	8	44	68	1688	28
2	1057	37	179	3	50	4	71	4	27	74	1447	30
3	1043	35	320	1	82	0	79	8	28	54	1637	23
4	843	36	527	1	105	0	91	9	14	71	1662	22
1987												
1	699	33	756	1	114	2	101	5	22	68	1839	18
2	717	37	739	1	108	2	92	8	22	55	1851	17
3	1063	40	672	0	122	3	113	3	39	62	2249	21
4	1200	42	922	1	180	1	146	7	61	74	2877	20
1988												
1	1270	36	654	0	102	2	102	12	40	65	2402	22
2	836	38	626	1	108	2	100	6	32	50	1911	20

IVDU, intravenous drug user
* Trend significant ($p<.01$)
** Trend not significant

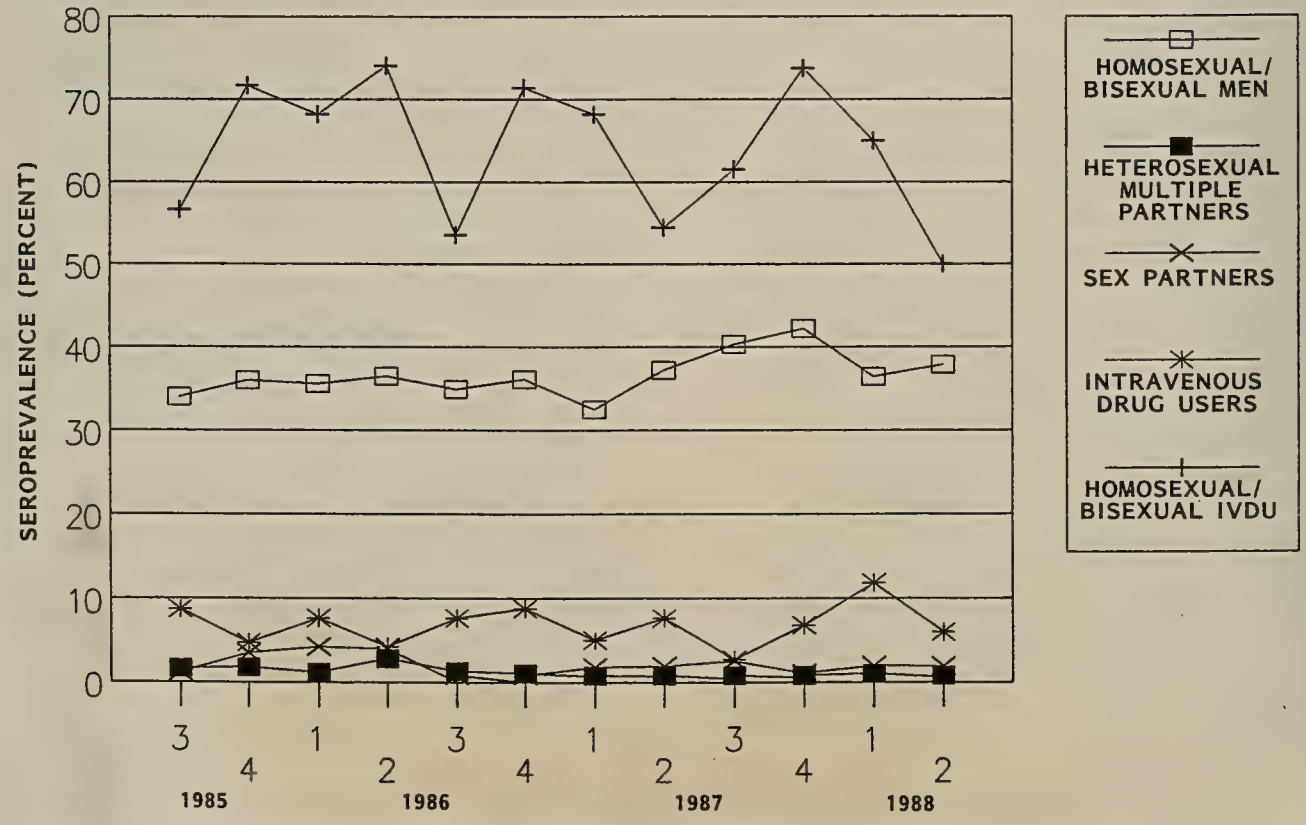

Figure 1. Seroprevalence by risk group, ATS sites, San Francisco, 1985-1988

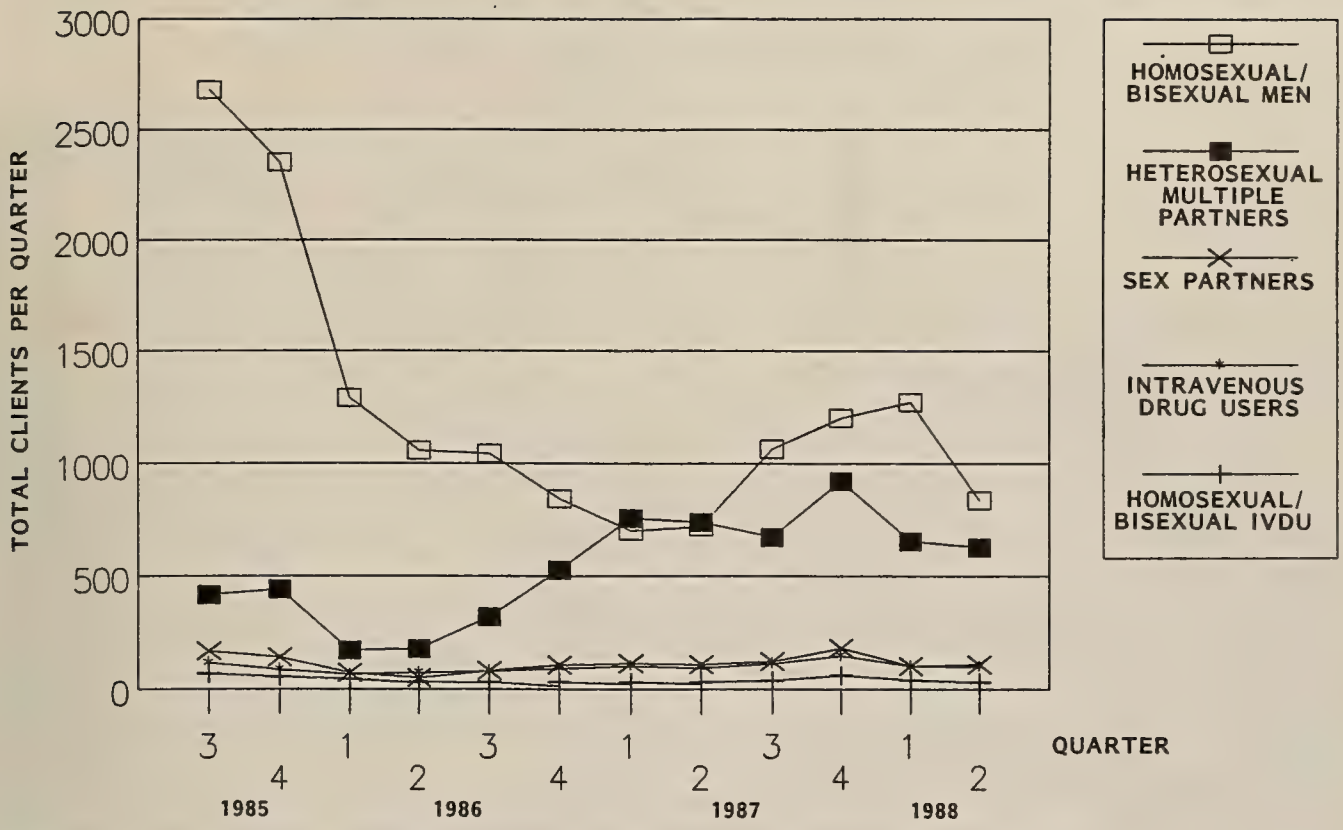

Figure 2. Anonymous test site utilization by risk group, San Francisco, 1985-1988

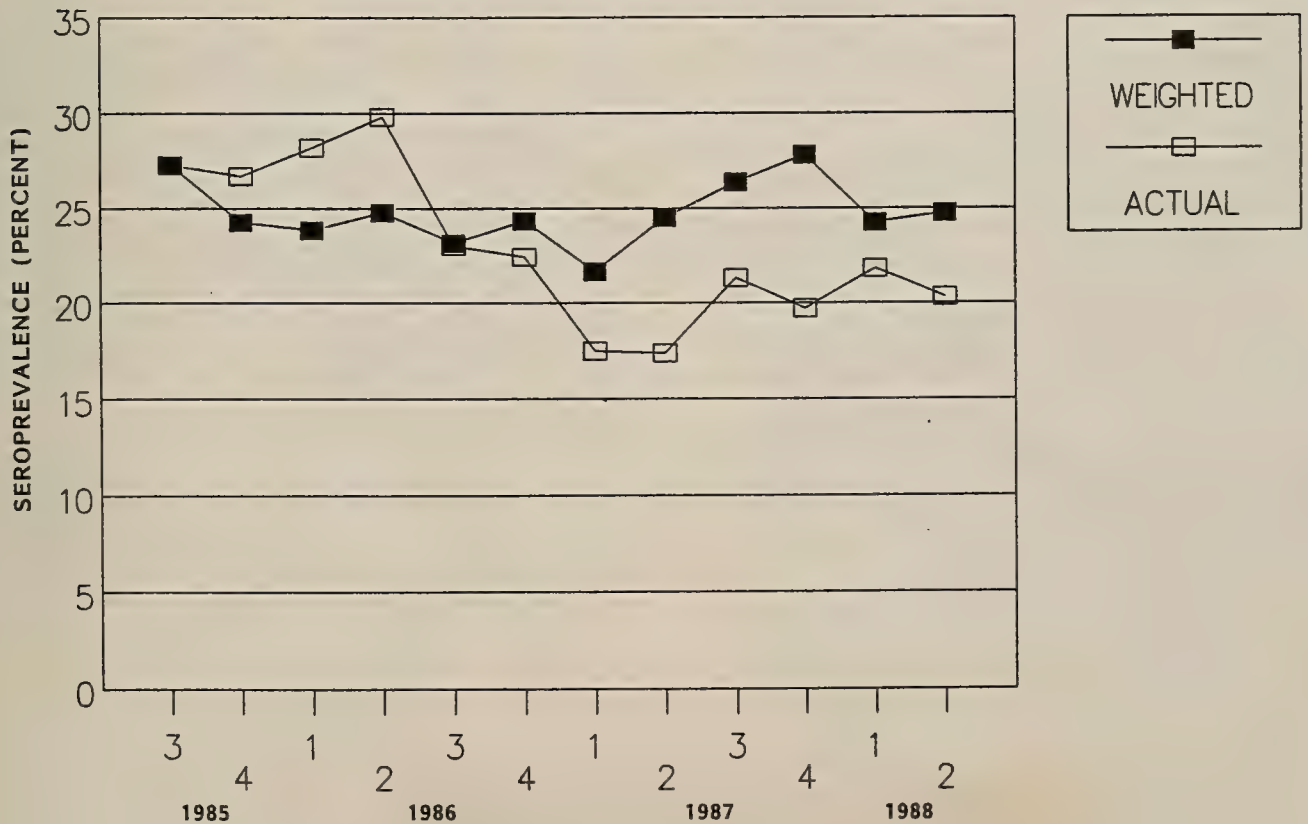

Figure 3. Seroprevalence for anonymous test sites, San Francisco, 1985-1988

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING Sept. 2, 1989

DISEASE	CASES REPORTED WEEKS 31 THROUGH 35			TOTAL CASES REPORTED TO DATE		
	1987	1988	1989	1987	1988	1989
AIDS	141	135	192	894	1095	1327
AMEBIASIS	54	46	39	280	251	217
CAMPYLOBACTER	39	62	80	271	368	445
COCCIDIOIDOMYCOSIS	–	–	2	2	4	6
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	69	61	65	529	465	456
GIARDIASIS	35	44	48	180	261	273
GONORRHEA	811	687	408	4174	4425	3412
HEPATITIS Type A	20	33	23	124	197	173
HEPATITIS Type B	23	5	12	127	60	66
HEPATITIS Non A-Non B	2	–	2	14	13	7
HEPATITIS Type Unspecified	1	–	1	4	2	7
LEPROSY	–	–	–	8	1	3
MALARIA	4	2	3	12	12	33
MEASLES	–	–	3	12	5	9
MENINGITIS, BACTERIAL	1		2	6	3	16
MENINGITIS, VIRAL	–	4	6	1	8	20
MUMPS	–	–		6	3	
PERTUSSIS	–	1	1	3	2	3
PSITTACOSIS	1	1		1	1	
RUBELLA	–		–	4		1
SALMONELLOSIS	18	30	25	140	149	141
SHIGELLOSIS	50	64	52	282	285	291
SYPHILIS, Total	67	46	64	495	386	443
SYPHILIS, Primary & Secondary	22	16	21	169	146	151
TUBERCULOSIS (all forms)	35	22	29	221	220	192
TYPHOID FEVER	1	2	1	2	12	7
Total deaths reported this period		781	729		5930	6005
Deaths from pneumonia this period		27	23		176	256

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Update: The San Francisco City Clinic Cohort Study

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Description of Cohort. The San Francisco City Clinic Cohort was recruited from 1978 through 1980 at San Francisco City Clinic (SFCC), the municipal sexually transmitted disease clinic, for studies of the prevalence and incidence of sexually transmitted hepatitis B and, ultimately, of the efficacy of the hepatitis B vaccine in homosexual and bisexual men (1). As part of these studies, serum samples were collected from all cohort members and tested for serologic markers of hepatitis B. Three hundred and fifty-nine hepatitis B seronegative men were then randomized into a double-blind placebo controlled vaccine trial with multiple serum samples collected from each participant. All unused sera, both from initial screening and from the vaccine trial, were frozen and stored.

In October 1983, epidemiologic studies of the acquired immunodeficiency syndrome (AIDS) were initiated in this cohort (2). Each cohort member who agreed to participate in AIDS follow-up studies was interviewed regarding behavioral and environmental risk factors for human immunodeficiency virus (HIV) infection and AIDS, examined by a physician, and, after the development of the HIV antibody test, tested for antibodies to HIV. With the patient's consent, all stored sera from the earlier hepatitis studies were also tested for HIV antibodies. During the past year, data from the San Francisco City Clinic Cohort Study have been used for the following areas of research:

Determination of HIV infection. Among the men who participated in the hepatitis B vaccine trial, the cumulative prevalence of HIV infection was approximately 51% in 1988 (3). The annual incidence of HIV infection among seronegative persons was greatest in 1980 through 1982 (10-20%) and has progressively declined to 0% in 1987 and 3% in 1988. The seroprevalence of HIV infection among a weighted random sample of the whole SFCC cohort is considerably higher, estimated to be 73% in 1986 (4).

Risk factors associated with recent seroconversion were assessed among all SFCC cohort members. A small number of men continue to seroconvert for HIV, primarily in association with receptive and insertive anal intercourse without a condom (5,6). Although multiple partners are also associated with an increased risk of seroconversion, some seroconverters reported only 1-2 episodes of unprotected intercourse. Of 12 men who recently seroconverted, two men most likely acquired HIV infection through receptive oral intercourse with ejaculation. Personal interviews also reveal a role for alcohol in unsafe behaviors, as well as numerous misperceptions about what is safe in regard to HIV infection.

We continue to monitor the prevalence of high risk sexual practices among men in our cohort, documenting the dramatic decline in high risk practices that has taken place over the last 10 years (7). More recent investigations have looked at the association of changes in high risk practices with knowledge of HIV antibody status, demonstrating that significant reductions in high risk behavior have generally taken place regardless of knowledge of one's status (8). Current investigations also include more detailed questions about determinants of high risk behavior.

In addition to behavioral determinants of HIV infection, we have evaluated biological cofactors of infection. Serological studies among SFCC cohort members have suggested a

role for herpesvirus type 2 in facilitating HIV transmission (9).

Several studies have evaluated the role of the polymerase chain reaction (PCR) assay in identifying persons with HIV infection, especially in light of recent reports suggesting the existence of persons who are seronegative but virus positive (10). Studies conducted in collaboration with the SFCC cohort have found a strong concordance between the HIV antibody and PCR assays, and have not supported the existence of a prolonged state of HIV infection prior to seroconversion (11-13).

Natural history of HIV infection. The risk of AIDS and other clinical manifestations of HIV infection increases with duration of infection (14). Of 66 men whose estimated date of seroconversion for HIV antibody was before January 1980, 59% have developed AIDS, 18% AIDS-related conditions, 3% asymptomatic generalized lymphadenopathy and 20% had no signs or symptoms as of June 1989. Of 275 HIV-infected men whose date of seroconversion could be well approximated, we estimate 4% will develop AIDS within 3 years of infection, 10% within 4 years, 25% within 6 years, 39% within 8 years and 54% within 10 years (95% C.I. = 44-64%) (Figure 1). A comparative study of a cohort of persons with hemophilia and men from the SFCC cohort vaccine trial found no statistical difference between AIDS progression rates in the two cohorts when duration of HIV infection was controlled for (15).

Seropositive men in the SFCC cohort are prospectively followed with a variety of laboratory tests, including T-lymphocyte subsets, p24 antigen and beta-2 microglobulin. Even among persons who have been infected with HIV for more than ten years, there is variability with respect to the presence or titer of these prognostic markers (16). This suggests that other factors besides duration of infection may affect the rate of progression to disease.

Investigations have considered both behavioral and biologic cofactors for HIV disease progression. Infection with certain sexually transmitted diseases following HIV seroconversion, such as amebiasis and herpes simplex, was associated with an increased likelihood of progression to AIDS in this cohort (17). Whether these represent actual biologic cofactors for progression, or markers of certain life-style or other variables will be determined by additional analyses.

Those persons infected with HIV for more than five years and who have remained clinically and immunologically normal were further evaluated with a variety of immunologic, virologic and genetic laboratory tests (16). These "non-progressors" generally did not have evidence of replicating virus, but did have evidence of latent HIV infection. Although similar to persons with AIDS for some immunologic parameters (such as natural killer cell activity, antibody dependent cellular cytotoxicity and lymphocyte proliferation), non-progressors differed in strength of antibody response to a variety of virus specific proteins. Additional studies are currently underway to further characterize such non-progressors.

Data from this study were also analyzed for determinants of, and cofactors associated with, the development of Kaposi's sarcoma (KS). Compared to other persons with AIDS, men who developed KS had a shorter incubation time between seroconversion and diagnosis of AIDS (18). Men who developed KS were not more likely to report a history of many previously hypothesized cofactors for KS, such as use of nitrite inhalants.

The SFCC cohort participants are also evaluated for oral manifestations of HIV infection, such as thrush and hairy leukoplakia. These manifestations have been correlated with other clinical, serological, immunological, and behavioral data (19). In general, thrush and hairy leukoplakia are associated with other prognostic markers of HIV disease.

Hepatitis B vaccination. In addition to our studies of AIDS and HIV infection, we continued to follow hepatitis B vaccine trial participants for studies

of hepatitis B. Plasma derived hepatitis B vaccine was significantly less efficacious in HIV seropositive than seronegative men (20,21). Men who were HIV seropositive prior to receipt of the hepatitis B vaccine were less likely to develop immunity, and those who did develop immunity had lower peak response to the vaccine than men who were HIV seronegative at the time of vaccination. Among those receiving vaccine, both HIV seropositive and seronegative men lost antibody to hepatitis B over time, although seropositive men lost immunity more rapidly. Receipt of the hepatitis B vaccine did not cause acceleration of HIV-related disease. Additional studies are being conducted to evaluate the role of vaccine booster doses and the effect of chronic carriage on HIV disease progression.

Reported by the Research Branch, AIDS Office, San Francisco Department of Public Health.

Editorial Note. San Francisco is one of the cities most affected by the AIDS epidemic, with the highest number of reported AIDS cases per capita in the United States (22). In San Francisco, homosexual and bisexual men represent the vast majority of those diagnosed with AIDS as well as those infected with HIV (23). Although the seroprevalence of HIV infection in the gay community is currently estimated to be approximately 50% (24,25), seroconversion rates for the recent years have dropped dramatically reflecting changes in sexual behavior (8,24). Another indicator of sexual behavior changes in the gay community is a parallel decline in the number of San Francisco cases of gonococcal proctitis (26,27).

In general, information on the natural history of HIV infection and progression to AIDS from other cohort studies of homosexual and bisexual men, where date of seroconversion to HIV is known, show similar results, with progression rates increasing with duration of infection (28,29). However, the observation time in these other studies is not as long.

The San Francisco City Clinic Cohort Study continues to provide valuable information regarding the prevalence, incidence and natural history of HIV infection among homosexual and bisexual men in San Francisco. Additionally, follow-up of the SFCC cohort is providing information regarding the effect of antiviral therapy on the natural history of HIV infection and the projected ambulatory care needs for the city of San Francisco. Future research planned for the SFCC cohort includes evaluation of hepatitis B booster dose vaccine and examination of causes of morbidity and mortality in HIV infected homosexual and bisexual men that do not currently meet the Centers for Disease Control AIDS case surveillance definition.

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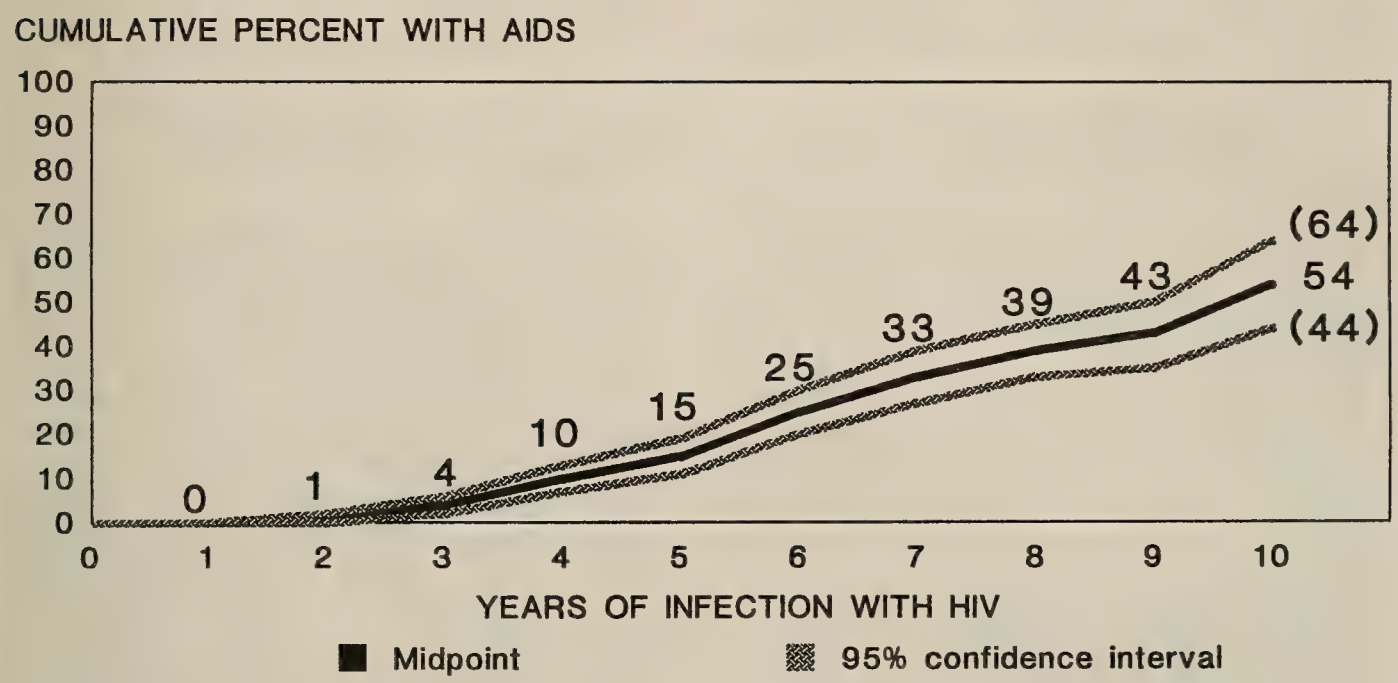

Figure 1. Kaplan - Meier progression time to AIDS, San Francisco City Clinic Cohort Study

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING Sept. 30, 1989

DISEASE	CASES REPORTED WEEKS 36 THROUGH 39			TOTAL CASES REPORTED TO DATE		
	1987	1988	1989	1987	1988	1989
AIDS	108	130	154	1002	1225	1481
AMEBIASIS	26	40	20	306	291	237
CAMPYLOBACTER	41	34	71	312	402	516
COCCIDIOIDOMYCOSIS	–	–	–	2	4	6
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	61	58	72	590	523	528
GIARDIASIS	26	35	38	206	296	311
GONORRHEA	509	464	291	4683	4889	3703
HEPATITIS Type A	18	15	23	142	212	196
HEPATITIS Type B	9	4	–	136	64	66
HEPATITIS Non A-Non B	1	–	–	15	13	7
HEPATITIS Type Unspecified	–	–	–	4	2	7
LEPROSY	–	–	–	8	1	3
MALARIA	–	2	2	12	14	35
MEASLES	–	–	–	12	5	9
MENINGITIS, BACTERIAL	2	–	–	8	3	16
MENINGITIS, VIRAL	–	–	1	1	8	21
MUMPS	–	1	1	6	4	1
PERTUSSIS	–	–	–	3	2	3
PSITTACOSIS	–	–		1	1	
RUBELLA	–		–	4		1
SALMONELLOSIS	21	19	21	161	168	162
SHIGELLOSIS	29	36	31	311	321	322
SYPHILIS, Total	43	49	46	538	435	489
SYPHILIS, Primary & Secondary	18	23	20	187	169	171
TUBERCULOSIS (all forms)	19	25	22	240	245	214
TYPHOID FEVER	–	–	–	2	12	7
Total deaths reported this period		671	603		6601	6608
Deaths from pneumonia this period		17	21		193	277

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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

Vol. 5, No. 12 December 1989

DEC 2 1989

The Re-emergence of Penicillinase-producing *Neisseria gonorrhoeae* in San Francisco as a Significant Problem: Recommendations for Control

Background. The penicillinase-producing *Neisseria gonorrhoeae* (PPNG) were first recognized in 1976. These organisms are resistant to penicillins and tetracyclines but are susceptible to third-generation cephalosporins, aminoglycosides and spectinomycin. They are highly prevalent in West Africa and in the Far East, especially in the Philippines, Singapore and Thailand. Since 1980, cases of PPNG have been increasing in the United States, and are spreading to previously unaffected areas (1).

In earlier PPNG outbreaks, travel to endemic areas and prostitute contact were cited as risk factors for infection (2). These factors may play an important role in the spread of PPNG disease to areas previously free of disease; however, once PPNG becomes endemic (defined as PPNG proportion of all gonorrhea >1%), it has the same epidemiologic characteristics as endemic, antibiotic-sensitive gonorrhea. PPNG patients have been predominantly inner city heterosexuals of racial and ethnic minority groups. While PPNG infections are effectively treated with ceftriaxone or spectinomycin, patients with inadequately treated PPNG infection may be at high risk for complications, especially pelvic inflammatory disease among women. Once PPNG infection becomes endemic, eradication is extremely difficult and expensive.

In 1988, 35,935 cases of infection caused by PPNG were reported to the Centers for Disease Control (CDC) - a 40% increase over 1987 and a 116% increase over 1986. These cases represented 5.0% of all reported gonorrhea in the United States and a three-fold rise since 1986. In 1988, 58.4% of cases occurred outside of the three areas previously identified as hyperendemic (defined as PPNG proportion of all gonorrhea >3%): Florida, New York City and Los Angeles, as compared with 37% in 1986 (W. Whittington, personal communication, 1989).

PPNG in San Francisco. In the first quarter of 1987, San Francisco was identified as a PPNG endemic area with 1.4% of total gonorrhea attributable to PPNG (3). In April of 1987, ceftriaxone was recommended as the preferred treatment regimen to be used in suspected cases of uncomplicated gonorrhea and in asymptomatic contacts among San Francisco residents. Screening and partner notification efforts were also increased. By the fourth quarter of 1987 the PPNG proportion of all gonorrhea had decreased to 0.34%. In addition, the percentage of "endemic cases" (i.e., persons with no known travel history to another PPNG endemic area) decreased from 62% to 29%.

Re-emergence of PPNG in San Francisco. In the first three quarters of 1989, San Francisco PPNG cases increased dramatically, with the proportion of total gonorrhea attributable to PPNG consistently greater than 1%. In the third quarter of 1989, 44 PPNG infections were reported. In contrast, 19 PPNG infections were reported in the third quarter of 1988, a 126% increase (Figure 1). Furthermore, the proportion of total gonorrhea attributable to PPNG for the third quarter of 1989 was 4.8% (Figure 2), the highest proportion of PPNG infections ever reported in San Francisco, and exceeding the 3% threshold of hyperendemicity as defined by the CDC (4). Characteristics of these 43 cases are compared with those of the 19 cases reported during the same time period in 1988 and the 11 cases in 1987 in Table 1. Thirty-two percent of the 28 third quarter cases

among blacks reported use of crack cocaine; no cases among Hispanics and one of seven whites reported crack use. Similar to the 1987 PPNG episode in San Francisco, the 1989 increase in the proportion of PPNG parallels an increase in "endemic cases" with epidemiologic characteristics of PPNG patients similar to patients with penicillin-sensitive gonorrhea.

Because the proportion of PPNG in San Francisco now exceeds 4.8%, San Francisco is currently defined as a PPNG hyperendemic "hot spot" area. Cooperation is urgently needed to combat this public health emergency and to prevent further spread of these antibiotic-resistant organisms in San Francisco.

Recommendations for control. Based on federal and state policy guidelines for control of PPNG, the following recommendations should be implemented **immediately** by all health care providers in San Francisco:

1. All suspected cases of gonorrhea (GC) **must be cultured** and all GC isolates must be screened for beta-lactamase production. Diagnosis of GC by smear alone with a follow up test of cure is not adequate. All isolates positive for beta-lactamase production should be sent promptly to: Public Health Laboratory, San Francisco Department of Public Health, 101 Grove St., Room 419, San Francisco, CA 94102.

2. Treatment regimen to be used (in order of preference) in uncomplicated GC infections and in asymptomatic contacts (see #3):

a. **ceftriaxone* 250 mg IM** once [effective for all sites of GC infection, effective for treating incubating syphilis and chancroid (two other STDs increasing in San Francisco), safe in pregnancy]

or

b. spectinomycin 2 g IM once. (This treatment is not adequate for pharyngeal GC: patients who have pharyngeal GC, who cannot be treated with ceftriaxone and are not pregnant should be treated with ciprofloxacin 500 mg po as a single dose. Since experience with this regimen is limited, such patients should be evaluated with repeat culture 4-7 days after treatment.)

plus

Doxycycline 100 mg po bid for 7 days should be added to each of the above drugs to treat possibly co-existing chlamydia.

Ampicillin 3.5 g with probenecid 1 g po, amoxicillin 3 g with probenecid 1 g po or APPG 4.8 million units IM are <u>not</u> adequate for treatment.

3. The following persons should receive the above regimen at the time of visit and before the culture results are available:

a. all suspected cases of uncomplicated GC (i.e., urethral, endocervical, rectal, pharyngeal)

b. all contacts of persons diagnosed with GC and/or treated for GC

Note: asymptomatic women with GC infection identified through GC screening programs are exceptions to the above. Because culture results are known at the time these patients return for treatment, women with antibiotic-sensitive GC can be given standard treatment with ampicillin and probenecid. Obviously if a patient's culture is positive for PPNG she should be treated as outlined above.

4. Treatment regimen to be used in women with PID:

a. in outpatients - cefoxitin 2 g IM plus probenecid 1 gm po

or

ceftriaxone 250 mg IM

plus

doxycycline 100 mg po bid for 14 days

** The cross-reactivity of third-generation cephalsporins and penicillin (PCN) in PCN allergic patients is extremely rare. Careful history should be taken from the patient as to the nature of their PCN allergy. Ceftriaxone should be withheld only from the small minority of patients in whom a history of anaphylactic or histaminic response to PCN is suspected.*

b. in inpatients - cefoxitin 2 g IV q 6 hours or equivalent cephalosporin

and

doxycycline 100 mg po or IV q 12 hours for at least 48 hours after the patient clinically improves

or

clindamycin 900 mg IV q 8 hours

and

gentamicin 2 mg/kg IV or IM followed by 1.5 mg/kg q 8 hours for at least 48 hours after the patient clinically improves.

After discharge from hospital, continue doxycycline 100 mg po bid for 10-14 days total. Continuation of clindamycin 450 mg po 4 times a day for 10-14 days total may be considered as an alternative. Continuation of medication after hospital discharge is important for the treatment of possible *C. trachomatis* infection.

5. Treatment regimen to be used in persons with nonsepticemic GC ophthalmia:

a. in adults and children over 20 kg - ceftriaxone 1 g IM once

b. in infants - ceftriaxone 25-50 mg/kg q d (IM or IV) for 7 days

6. Treatment regimen to be used in persons with disseminated gonococcal infection (DGI):

a. Ceftriaxone 1 g, IM or IV, every 24 hours or equivalent cephalosporin (i.e., ceftizoxime 1 g IV every 8 hours, cefotaxime 1 g IV every 8 hours) *or* spectinomycin 2 g IM every 12 hours.

plus

Doxycycline 100 mg po bid for 7 days should be added to each of the above drugs to treat possibly co-existing chlamydia.

When the infecting organism is proven to be penicillin-sensitive, parenteral treatment may be switched to ampicillin 1 g IV every 6 hours.

Reliable patients with uncomplicated disease may be discharged 24-48 hours after all symptoms resolve and may complete the therapy (for a total of 1 week of antibiotic therapy) with cefuroxime axetil 500 mg po bid *or* amoxicillin 500 mg with clavulanic acid po tid or, if not pregnant, ciprofloxacin 500 mg po bid

7. Meningitis and endocarditis caused by *N. gonorrhoeae* require high-dose IV therapy with an agent effective against the strain causing the disease, such as ceftriaxone 1-2 g IV every 12 hours for 10-14 days for meningitis, and for 4 weeks for endocarditis.

8. Health care providers and laboratory personnel should report **immediately (within 24 hours)** all cases of PPNG to the Health Department PPNG hotline 495-7432 or to City Clinic 864-8100.

9. Health care providers should make every effort to ensure that all sexual partners of all GC cases are brought in quickly for evaluation, culture and treatment.

10. All cases of PPNG must return 3-5 days after completing all antibiotics for a test of cure (TOC) culture, and again in 1-2 months for reculture.

Clinicians unable to culture for GC or provide the above treatment can refer high risk patients or their sex partners to San Francisco City Clinic, 356 - 7th Street, for evaluation and treatment. In other PPNG problem areas it has been well documented that if these control measures are not implemented early, transmission will not be limited, and resistant strains of gonorrhea will become thoroughly "seeded" in traditional gonorrhea case areas. These procedures, when implemented in a timely and consistent manner, have been highly effective in controlling PPNG outbreaks in other areas as well as in San Francisco in 1987. Please refer any questions or problems to: Division of STD Control, City Clinic 864-8100.

Prepared by the STD Control Division

Erratum. In the Medical Alert mailed to providers on November 6, 1989, page 2, #4.b should read: **clindamycin 900 mg IV q 8 hours** (not 6 hours)

References

1. Centers for Disease Control. Penicillinase-producing *Neisseria gonorrhoeae* - United States, 1986. MMWR 1987;36:107-108.
2. Jaffe HW, Biddle JW, Johnson SR, Weisner PJ. Infections due to penicillinase-producing *Neisseria gonorrhoeae* in the United States: 1976-1980. J Infect Dis 1981;144: 191-197.
3. San Francisco Department of Public Health. The emergence of penicillinase-producing *Neisseria gonorrhoeae* in San Francisco as a significant problem: recommendations for control. San Francisco Epidemiologic Bulletin 1987; 3(5):17-19.
4. Centers for Disease Control. Antibiotic-resistant strains of *Neisseria gonorrhoeae:* Policy guidelines for detection, management and control. MMWR 1987;36(5S):1S-18S.

Table 1. Characteristics of patients with penicillinase-producing *Neisseria gonorrhoeae* (PPNG) reported to the San Francisco Department of Public Health, third quarter; 1987, 1988 and 1989

	3rd Quarter 1987 (N=11)	(%)	3rd Quarter 1988 (N=19)	(%)	3rd Quarter 1989 (N=44)	(%)
Male	7		16		25	
Female	4		3		19	
Median Age	36		28		29	
White	1	(9)	5	(28)	8	(18)
Black	4	(36)	7	(39)	28	(68)
Hispanic	3	(27)	4	(22)	5	(12)
Asian/Filipino	3	(27)	2	(11)	1	(2)
"Imported Cases"	6	(55)	10	(61)	10	(26)
"Endemic Cases"	5	(45)	7	(39)	28	(74)

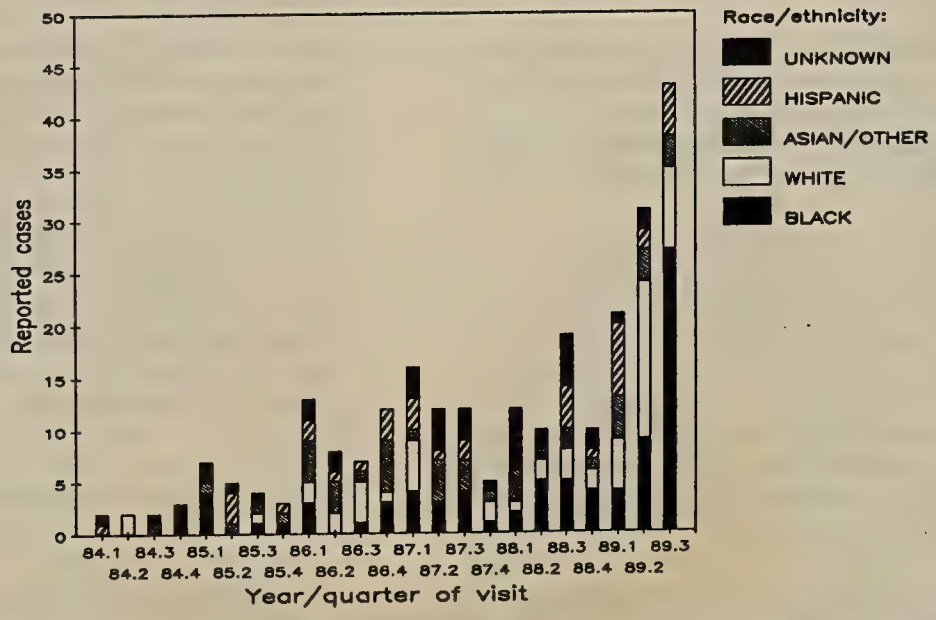

Figure 1. San Francisco penicillinase-producing *Neisseria gonorrhoeae* cases by race/ethnicity and quarter of visit, 1984-1989. San Francisco STD surveillance data, non-residents excluded

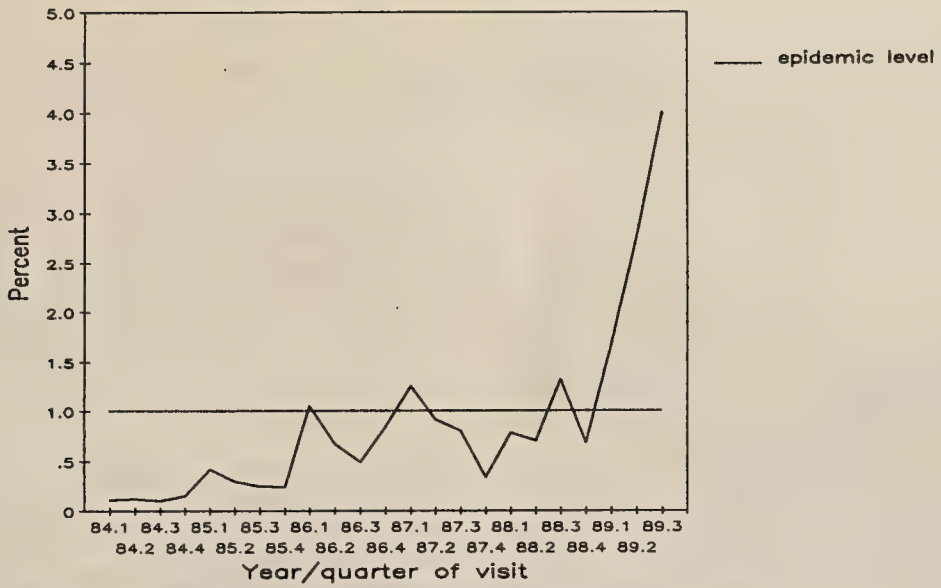

Figure 2. San Francisco penicillinase-producing *Neisseria gonorrhoeae* proportion of total gonorrhea cases by quarter, 1984-1989. STD surveillance data, non-residents excluded

Eosinophilia-Myalgia Syndrome Reporting

The Centers for Disease Control (CDC) have described an apparently new health problem called eosinophilia-myalgia syndrome (EMS) that appears to be associated with the ingestion of preparations containing the amino acid L-tryptophan (LT).

LT is normally ingested as a constituent of dietary protein and used by some persons for disorders such as insomnia, depression and premenstrual syndrome. Since other effective agents are available to treat these problems, the Food and Drug Administration, California Department of Health Services (CDHS), and CDC are advising consumers to discontinue use of LT-containing tablets and capsules pending further investigation of their potential adverse effects.

The San Francisco Department of Public Health is collaborating with the CDHS and CDC to investigate the potentially causal relationship between LT use and EMS. We are asking all health care providers to immediately report any possible cases of EMS to the Bureau of Communicable Disease Control at (415) 554-2830.

The Syndrome. The illness is characterized by eosinophilia ranging from 1,000 to 30,000 eosinophils/cu mm [normal: 50-350 cells per cu mm]. Most patients present with myalgia which is usually severe and generalized. Some exhibit an initial respiratory prodrome with cough, dyspnea, or pulmonary infiltrates; arthralgias without frank arthritis; edema of the limbs; weakness; sclerodermiform skin thickening; neuropathy; mildly elevated transaminase levels; and leukocytosis.

Surveillance case definition
"Eosinophilia-Myalgia Syndrome" (EMS):

1. an eosinophil count of 1,000 cells/cu mm or greater;
2. generalized myalgia, at some point during the course of the illness severe enough to affect the patient's ability to pursue usual daily activities;
3. absence of any infection or neoplasm that could account for #1 or #2 above.

Individual clinical judgement will be important in the diagnosis of the syndrome in specific patients. Patient's use or nonuse of LT should not influence case reporting.

Symptomatic persons who have taken L-tryptophan are requested to keep remaining tablets for the time being in the event that analysis might be desired at a later date.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING October 28, 1989

DISEASE	CASES REPORTED WEEKS 40 THROUGH 43			TOTAL CASES REPORTED TO DATE		
	1987	1988	1989	1987	1988	1989
AIDS	161	87	139	1163	1312	1620
AMEBIASIS	25	35	25	331	326	262
CAMPYLOBACTER	24	49	52	336	451	568
COCCIDIOIDOMYCOSIS	-	3	-	2	7	6
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	55	56	62	645	579	590
GIARDIASIS	27	51	36	233	347	347
GONORRHEA	482	591	344	5165	5480	4047
HEPATITIS Type A	10	19	24	152	231	220
HEPATITIS Type B	11	8	4	147	72	70
HEPATITIS Non A-Non B	-	3	1	15	16	8
HEPATITIS Type Unspecified	2	2	-	6	4	7
LEPROSY	-	-	-	8	1	3
MALARIA	-	1	2	12	15	37
MEASLES	-	-	1	12	5	10
MENINGITIS, BACTERIAL	-	-	3	8	3	19
MENINGITIS, VIRAL	-	-	3	1	8	24
MUMPS	-	1	-	6	5	1
PERTUSSIS	-	-	4	3	2	7
PSITTACOSIS	-	-		1	1	
RUBELLA	-		-	4		1
SALMONELLOSIS	15	32	27	176	200	189
SHIGELLOSIS	26	40	33	337	361	355
SYPHILIS, Total	49	53	28	587	488	517
SYPHILIS, Primary & Secondary	22	18	12	209	187	183
TUBERCULOSIS (all forms)	29	18	19	269	263	233
TYPHOID FEVER	1	3	-	3	15	7
Total deaths reported this period		626	623		7227	7231
Deaths from pneumonia this period		20	18		213	295

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Volume 6, No. 1 January 1990

Syphilis and Congenital Syphilis in San Francisco

Syphilis rates reached a peak in San Francisco in 1982. Since that time we have observed a fivefold decrease in the incidence of early syphilis (Figure 1), presumably due to the adoption of safer sex practices among gay and bisexual men. This overall decline, however, has obscured a marked increase in early syphilis among blacks (Figure 2) and, particularly, among black women since 1987 (Figure 3).

In 1988, the Centers for Disease Control (CDC) reported the largest number of cases of congenital syphilis since the advent of penicillin (1). Because congenital syphilis can be prevented by the detection and treatment of syphilis early in pregnancy, this increase represents a failure both in syphilis control and in prenatal care (2). As the epidemiology of congenital syphilis has paralleled trends for early syphilis in women nationwide (3), similar parallel trends are occurring in San Francisco (Figure 4).

The increase in the number of congenital syphilis cases in San Francisco and nationally, partially reflects the use of revised, more sensitive reporting guidelines for congenital syphilis. These guidelines were published in 1988 (4) but a modified version (Table 1) (2), has been approved by the Council of State and Territorial Epidemiologists and the CDC, and should now be used in San Francisco. The modified guidelines replace the terms previously used to describe congenital syphilis - definite, probable, possible, unlikely, and compatible - with two new categories, confirmed and presumptive.

The present guidelines require reporting of congenital syphilis based on information available at birth or at the initial investigation. Infants born to women with untreated or inadequately treated syphilis are now considered to have presumptive congenital syphilis, regardless of symptoms or follow-up. Since most such infants are infected, they should be treated, even when asymptomatic. Although this surveillance case definition for congenital syphilis is a more sensitive measure of disease, the true morbidity and mortality from congenital syphilis remains underestimated, largely because stillbirths are a common sequelae of untreated maternal syphilis. Although reportable by the currently revised guidelines, syphilis associated stillbirths are generally unrecognized and underreported (2).

Syphilis in pregnancy. The prevention of congenital syphilis will require efforts to decrease overall syphilis incidence, especially in pregnant women. All pregnant women should have a nontreponemal serologic test for syphilis, such as the Venereal Disease Research Laboratory (VDRL) or rapid plasma reagin (RPR) test, early in pregnancy, preferably in the first trimester. Seropositive pregnant women should be considered infected unless treatment history and sequential serologic antibody titers show an appropriate response to treatment. An appropriate nontreponemal serologic response to treatment in pregnant patients, like all patients with early syphilis, consists of a fourfold (two dilution) decline by 3 months in cases of primary syphilis, by 6 months in cases of secondary syphilis, and by 1 year in cases of early latent disease (6).

In San Francisco, screening should be repeated in the third trimester and again at delivery in all women in populations where prenatal care and follow-up is uncertain and in all women with a history of a sexually transmitted disease. At delivery, the mother's blood should be screened

because use of cord blood for screening may give both false positive and false negative results.

Seroreactive pregnant women should be evaluated promptly. This evaluation should include a history and physical examination, as well as a quantitative nontreponemal test, and a confirmatory treponemal test, such as the fluorescent treponemal antibody absorption test (FTA-ABS) or microhemagglutination assay for *T. pallidum* (MHA-TP). If there is clinical or serologic evidence of syphilis or if the diagnosis of syphilis cannot be excluded with reasonable certainty, the patient should be treated immediately.

Treatment. Penicillin is the only drug that may be given for the treatment of syphilis in pregnant women. Patients should be treated with the penicillin regimen appropriate for their particular stage of syphilis (Table 2) (5,6). Tetracycline and doxycycline are contraindicated in pregnancy because of the potential adverse effects on the fetus. Erythromycin should not be used because of the high risk of failure to cure infection in the fetus. Pregnant women with histories of penicillin allergy should first be carefully questioned regarding the validity of the history. If necessary, they should then be skin tested or referred for desensitization. Women who are treated in the second half of pregnancy are at risk for premature labor and/or fetal distress if their treatment precipitates a Jarisch-Herxheimer reaction. They should be advised to seek medical attention following treatment if they notice any change in fetal movements or have contractions. Stillbirth is a rare complication of treatment; however, since therapy is necessary to prevent further fetal damage, this concern should not delay treatment.

Patients for whom adequate treatment for syphilis (5,6) in the past is documented, need not be re-treated unless there is clinical, serologic, or epidemiologic evidence of reinfection such as darkfield-positive lesions, a fourfold titer rise of a quantitative nontreponemal test, or a history of recent sexual exposure to a person with syphilis.

Pregnant women who have been treated for early syphilis should have monthly quantitative nontreponemal serologic tests for the remainder of the current pregnancy. Their antibody titers should respond to treatment, as described above.

All syphilis patients should be counseled concerning the risks for HIV infection and be encouraged to be tested for HIV antibody.

Congenital syphilis. Infants should be evaluated if they were born to seropositive (nontreponemal test confirmed by treponemal test) women who:

1. have untreated syphilis,

or

2. were treated for syphilis less than 1 month before delivery,

or

3. were treated for syphilis during pregnancy with a non-penicillin regimen or with an inadequate amount of penicillin,

or

4. do not have a well-documented history of adequate treatment for syphilis,

or

5. did not have the expected decrease (described above) in nontreponemal antibody titers after treatment for syphilis,

or

6. were treated but had insufficient serologic follow-up during pregnancy to assess disease activity.

Since the consequences of nontreatment are grave and follow-up is often difficult, an infant should not be released from the hospital until the serologic status of its mother is known. An infected infant is often asymptomatic at birth and may be seronegative, especially if the maternal infection occurred late in pregnancy.

The clinical and laboratory evaluation of infants born to the women described above should include:

1. a thorough physical examination for evidence of congenital syphilis,

and

2. nontreponemal antibody titer,

and

3. cerebrospinal fluid (CSF) analysis for cells, protein, and VDRL,

and

4. long bone x-rays,

and

5. other tests as clinically indicated (e.g., chest x-ray),

and

6. if possible, FTA-ABS on the purified 19S-IgM fraction of serum (e.g., separation by Isolab columns).

Infants should be treated if they have:

1. any evidence of active disease (physical examination or x-ray),

or

2. a reactive CSF-VDRL,

or

3. an abnormal CSF finding (white blood cell count >5/mm^3 or protein >50 mg/dl) regardless of CSF serology (In the immediate newborn period, interpretation of these tests may be difficult; normal values vary with gestational age and are higher in preterm infants. Other causes of elevated values should also be considered. However, when an infant is being evaluated for congenital syphilis, the infant should be treated if test results cannot exclude infection.),

or

4. quantitative nontreponemal serologic titers that are fourfold (or greater) higher than their mother's,

or

5. positive FTA-ABS-19S-IgM antibody, if performed.
6. Even if the evaluation is normal, infants should be treated if their mothers had untreated or inadequately treated syphilis during pregnancy, evidence of relapse or reinfection after treatment, or were treated within 30 days of delivery.
7. Infants, who meet the criteria for evaluation but are not fully evaluated, as specified above, should be assumed to be infected and treated accordingly.

Treatment. Treatment for congenital syphilis must consist of: 100,000-150,000 units/kg of aqueous crystalline penicillin G daily (administered as 50,000 units/kg IV every 8-12 hours) or 50,000 units/kg of procaine penicillin daily (administered once IM) for 10-14 days. If more than one day of therapy is missed, the entire course should be restarted. All symptomatic neonates should also have an ophthalmologic examination.

Infants who meet the criteria for evaluation but who, after a full evaluation, do not meet the criteria for therapy, are at low risk for congenital syphilis. If close follow-up, however, cannot be assured, they should be treated with benzathine penicillin G, 50,000 units/kg IM as a one-time dose.

Follow-up. Infants, who meet the criteria for evaluation but who, after a full evaluation, do not meet the criteria for therapy, and who do not receive benzathine penicillin must be closely followed at 1, 2, 3, 6, and 12 months of age. In the absence of infection, nontreponemal antibody titers should be decreasing by 3 months of age and should have disappeared by 6 months of age. If these titers are found to be stable or increasing, the child should be re-evaluated and fully treated. Additionally, in the absence of infection, treponemal antibodies may be present for up to 1 year. If they are present beyond 1 year, the infant should be treated for congenital syphilis.

Treated infants should also be observed to ensure decreasing nontreponemal antibody titers; these should have disappeared by 6 months of age. Treponemal tests should not be used, since they may remain positive despite effective therapy if the child was infected. Infants with documented CSF pleocytosis should be re-examined every 6 months or until the cell count is normal. If the cell count is still abnormal after 2 years, or if a downward trend is not present at each examination, the infant should be retreated. The CSF-VDRL should also be checked at 6 months; if it is still reactive, the infant should be retreated.

After the newborn period, children discovered to have syphilis should have a CSF examination to rule out congenital syphilis. Any child who is thought to have congenital syphilis or who has neurologic involvement should be treated with 200,000-300,000 units/kg/day of aqueous crystalline penicillin G (administered as 50,000 units/kg every 4-6 hours) for 10-14 days. Older children with definite

acquired syphilis and a normal neurologic examination may be treated with benzathine penicillin G, 50,000 units/kg IM, up to the adult dose of 2.4 million units. Children with a history of penicillin allergy should be skin tested and, if necessary, desensitized. Follow-up should be performed as described above.

In cases of congenital syphilis, the mother should be counseled concerning the risks of HIV infection and be encouraged to be tested for HIV; if her test is positive, the infant should be referred for follow-up.

All patients with early or congenital syphilis should be reported to the Division of STD Control, City Clinic, 356 Seventh Street, San Francisco, CA 94103 (Telephone: 864-8100). These patients should include all infants and children who are treated presumptively for congenital syphilis as well as patients who meet the surveillance case definition. Any questions may also be referred to the Division of STD Control. Only through widespread screening, evaluation, and adequate treatment of pregnant women and infants can we hope to fully identify and control this new epidemic in San Francisco.

Reported by the STD Control Division.

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4. CDC. Syphilis and Congenital Syphilis - United States, 1985-1988. MMWR 1988;37:486-489.
5. CDC. 1989 Sexually Transmitted Diseases Treatment Guidelines. MMWR 1989:38(suppl. no. S-8):9-12.
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Table 1. Surveillance Case Definition For Congenital Syphilis

For reporting purposes, congenital syphilis includes cases of congenitally acquired syphilis in infants and children, as well as syphilitic stillbirths.

A CONFIRMED CASE of congenital syphilis is an infant in whom *T. pallidum* is identified by darkfield microscopy, fluorescent antibody, or other specific stains in specimens from lesions, placenta, umbilical cord, or autopsy material.

A PRESUMPTIVE CASE of congenital syphilis is either of the following:

a. any infant whose mother had untreated or inadequately treated* syphilis at delivery, regardless of findings in the infant,

or

b. any infant or child who has a reactive treponemal test for syphilis and any one of the following:
   1. any evidence of congenital syphilis on physical examination,

   or

   2. any evidence of congenital syphilis on long bone radiograph,

   or

   3. reactive CSF-VDRL,

   or

   4. elevated CSF cell count or protein (without other cause),

   or

   5. quantitative nontreponemal serologic titers which are fourfold higher than the mother's (both drawn at birth),

   or

   6. reactive test for FTA-ABS-19S-IgM antibody.

A SYPHILITIC STILLBIRTH is defined as a fetal death in which the mother had untreated or inadequately treated* syphilis at delivery of a fetus after a 20-week gestation or of a fetus weighing >500 g.

** Inadequate treatment consists of any nonpenicillin therapy, an inadequate amount of penicillin, or penicillin given <30 days prior to delivery.*

Table 2. Recommended Treatment of Pregnant Women with Syphilis

Primary, Secondary and Early Latent Syphilis of less than one year's duration:
Benzathine penicillin G, 2.4 million units IM, in one dose.

Late Latent Syphilis of more than one year's duration:
Benzathine penicillin G, 7.2 million units total, administered as 3 doses of 2.4 million units IM, given 1 week apart for 3 consecutive weeks.

Neurosyphilis:
Aqueous crystalline penicillin G, 12-24 million units administered 2-4 million units every 4 hours IV, for 10-14 days.

Alternative (only if patient is not symptomatic and outpatient compliance can be ensured):
Procaine penicillin, 2-4 million units IM daily and Probenicid, 500 mg. orally 4 times a day, both for 10-14 days.

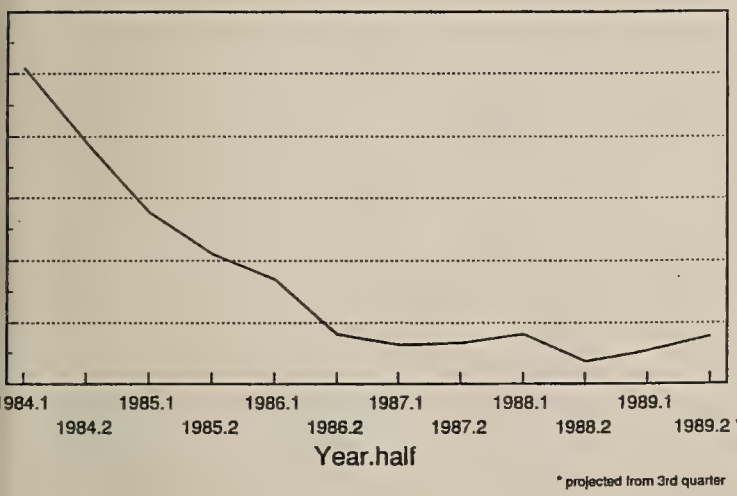

Figure 1. Primary and secondary syphilis incidence, San Francisco 1984-1989. Rates based on 1980 U.S. Census Data.

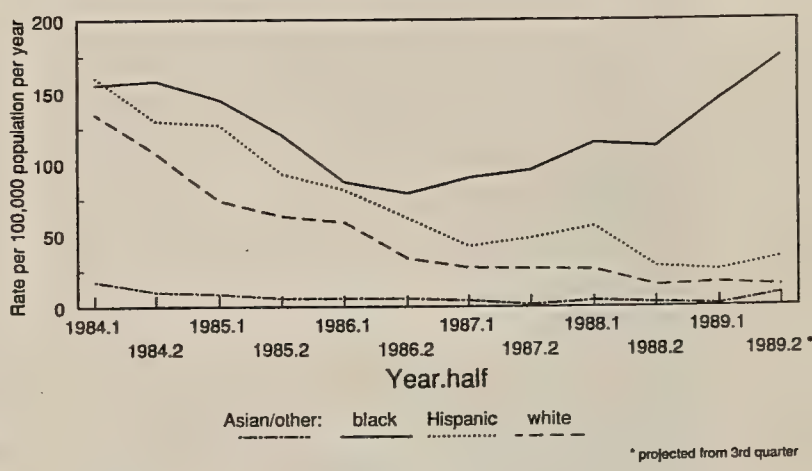

Figure 2. Primary and secondary syphilis incidence by race/ethnicity of patient, San Francisco 1984-1989. Rates based on 1980 U.S. Census Data

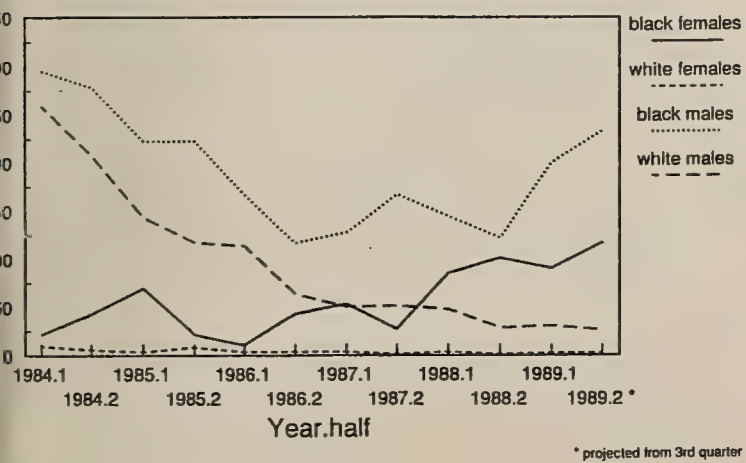

Figure 3. Primary and secondary syphilis incidence by race and sex of patient, San Francisco 1984-1989. Rates based on 1980 U.S. Census Data

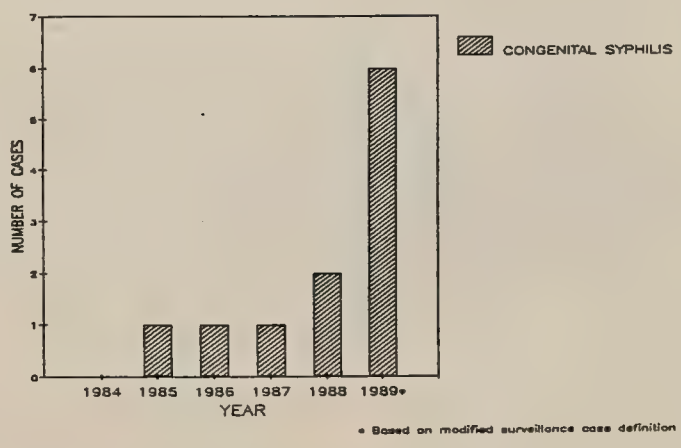

Figure 4. Reported San Francisco congenital syphilis cases by year of report, 1984-1989

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING Dec. 2, 1989

DISEASE	CASES REPORTED WEEKS 44 THROUGH 48			TOTAL CASES REPORTED TO DATE		
	1987	1988	1989	1987	1988	1989
AIDS	181	165	157	1344	1477	1777
AMEBIASIS	36	27	21	367	353	282
CAMPYLOBACTER	41	34	51	377	485	619
COCCIDIOIDOMYCOSIS	–	–	1	2	7	7
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	67	68	103	712	647	693
GIARDIASIS	34	35	28	267	382	375
GONORRHEA	630	631	382	5795	6111	4429
HEPATITIS Type A	10	24	27	162	255	247
HEPATITIS Type B	15	13	7	162	85	77
HEPATITIS Non A-Non B	2	–	–	17	16	8
HEPATITIS Type Unspecified	1	1	–	7	5	7
LEPROSY	1	–	–	9	1	3
MALARIA	4	2	1	16	17	38
MEASLES	–	–	1	12	5	11
MENINGITIS, BACTERIAL	–	1	2	8	4	21
MENINGITIS, VIRAL	–	2	2	1	10	26
MUMPS	1	2	–	7	7	1
PERTUSSIS	–	1	–	3	3	7
PSITTACOSIS	–	–		1	1	
RUBELLA	–		1	4		2
SALMONELLOSIS	28	14	23	204	214	212
SHIGELLOSIS	60	37	25	397	398	380
SYPHILIS, Total	55	72	62	642	560	579
SYPHILIS, Primary & Secondary	24	25	28	233	212	211
TUBERCULOSIS (all forms)	28	25	26	297	288	259
TYPHOID FEVER	–	–	–	3	15	7

Total deaths reported this period	771	817	7998	8048
Deaths from pneumonia this period	19	18	232	313

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

Vol. 6, No. 2 February 1990

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Update: Hospital Utilization by AIDS patients, San Francisco

From January 1, 1984, through December 31, 1988, 10,978 hospitalizations and 121,688 hospital days for acquired immunodeficiency syndrome (AIDS) and AIDS-related illnesses among San Francisco residents were reported to the West Bay Hospital Conference from 14 of the 16 acute care hospitals in San Francisco.* This corresponds to an average length of hospitalization of 11.08 days and to a total average daily census of 83.3 patients. These hospitalizations included ICD-9 discharge diagnosis code 279.19 from January 1984 through September 1986 and codes 042, 043, 044 from October 1986 through December 31, 1988.

In 1988, there were 3,727 hospitalizations and 36,040 hospital days for AIDS, AIDS-related conditions and acute human immunodeficiency virus (HIV) infection. Of these, 3,312 (88.9%) hospitalizations and 33,135 (91.9%) hospital days were for AIDS (Table 1).

During the 60-month study period, 5,281 of the AIDS patients reported to the San Francisco Department of Public Health (i.e., San Francisco residents diagnosed at settings other than Letterman Army Medical Center and the Veterans Administration Medical Center) were alive, and accounted for a total of 1,982,522 patient days. On any given day during this period, an average of 1,085.1 AIDS patients meeting the inclusion criteria were alive. Thus, the average number of AIDS-related hospitalizations during this period was 7.7% of the average number of living AIDS patients.

To determine the average number of hospitalizations and hospital days from diagnosis to death for AIDS patients during this period, we calculated the number of complete survival intervals from diagnosis to death. We added the number of patients who were diagnosed and died during this period to the number of patients who were alive during this period but who were diagnosed before it began, or who died after it ended, the fraction of their course from diagnosis to death that occurred during the study period. Of the 5,281 patients alive at any point during the study period, 4,154 (79%) were alive only during the period, and 1,127 (21%) lived a fraction of their course during this period. Together these patients accounted for 4,260.0 complete survival intervals from diagnosis to death. Given the 10,978 hospitalizations and 121,688 hospital days during this period and assuming that 88.9% of these hospitalizations and 91.9% of these hospital days were for AIDS,** AIDS patients had an average of 2.3 hospitalizations and 26.3 hospital days from diagnosis to death.

The percentage of AIDS patients hospitalized per day during this period declined from 9.2% in 1984 to 4.6% in 1988 (Table 2). This corresponds to a decrease in the average number of hospitalizations from 2.4 to 2.2 and to a decrease in the average number of hospital days from 31.0 to 22.5 per patient from diagnosis to death (Table 3).

Reported by LH Baskett, FM Strychaz, West Bay Hospital Conference; Health Resources and Services and Surveillance Branches, AIDS Office.

** Veterans Administration Medical Center and Letterman Army Medical Center do not participate in this system.*

*** Reflects AIDS data for 1988 only.*

Editorial Note. Despite increasing patient load and longer life expectancy for people with AIDS in San Francisco (1), the trend in acute care

hospitalization continues to decrease. The City's outpatient and long-term care services have been central to this home-based care system (2,3). Acute care hospitalization is a major factor contributing to the cost of care for patients with AIDS (4,5). Decreasing hospital utilization and increasing patient volume are strong incentives for continued federal support of San Francisco's long-term care, out-of-hospital services.

Continued surveillance of the use of acute care hospital beds will be necessary to evaluate the impact of changing demographics and clinical advancements in out-of-hospital care such as *Pneumocystis carinii* pneumonia prophylaxis, earlier intervention with moderate doses of azidovudine, and the recent FDA release of the oral anti-fungal drug fluconazole for the primary treatment of cryptococcal meningitis and other disseminated fungal infections.

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3. Arno PS. The nonprofit sector's response to the AIDS epidemic: community-based services in San Francisco. Am J Public Health 1986;76: 1325-1330.
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5. Scitovsky AA, Cline M, Lee PR. Medical care costs of patients with AIDS in San Francisco. JAMA 1986;256: 3103-3106.

Table 1. Distributions of Hospitalizations and Hospital Days for Patients with AIDS and HIV-related Illnesses by ICD-9 Diagnostic Code, San Francisco, 1988

Category	Code	Hospitalization		Hospital Days	
		N	%	N	%
HIV infection with specified conditions (AIDS)	042	3,312	88.9	23,135	91.9
HIV infection/other specified conditions (ARC)	043	389	10.4	2,721	7.5
Other HIV infection (excludes AIDS and ARC)	044	26	0.7	184	0.5

Table 2. AIDS Patient Days and Hospital Days by Year, San Francisco, 1984-1988

Year	Patient Days		Hospital Days		Percent Hospitalized
	Total	Daily	Total	Daily	
1984	125,037	341.6	11,470	31.3	9.2
1985	247,123	677.0	19,330	53.0	7.8
1986	356,976	978.0	28,752	78.8	8.1
1987	536,907	1,471.0	29,001	79.5	5.4
1988	726,479	1,984.9	33,135	90.5	4.6
Total	1,982,522	1,085.1	121,688	66.6	6.1

Table 3. Average Number of Hospitalizations and Hospsital Days from Diagnosis to Death for AIDS Patients by Year, San Francisco, 1984-1988

Year	Patients Alive*	Hospitalizations		Hospital Days	
		Total	Per Patient**	Total	Per Patient*
1984	340.2	918	2.4	11,470	31.0
1985	621.1	1,613	2.3	19,330	28.6
1986	867.4	2,340	2.4	28,752	30.5
1987	1,079.9	2,795	2.3	29,001	24.7
1988	1,352.5	3,312	2.2	33,135	22.5

** Average number of patients who were diagnosed and died during each year (see Text)*
*** From diagnosis to death, corrected for AIDS hospitalization only*

City and County of San Francisco

Department of Public Health

MEASLES ALERT

San Francisco is experiencing an increase in measles cases; two cases have been confirmed in the past two weeks. Most recently, a two year old presented to a clinic on Sunday, February 11 with high fever, cough, coryza, beginning rash on the face and positive measles exposure 10 days prior and was sent out without a measles diagnosis. The child returned to the same clinic on February 14 with continued high fever and more extensive rash and was positively diagnosed at that time. The household contact for this child was an Oakland case.

Measles disease activity in California is at its highest level since 1977 with 2974 cases reported in 1989. While the outbreaks are most significant in the 4 county Los Angeles area, Fresno, and San Joaquin; Alameda County has had a persistent outbreak and is the source of our most recent case. Prompt diagnosis and reporting are crucial to the control of measles outbreaks.

The purpose of this letter is four-fold:

1) To alert medical providers to the increase in measles so that physicians will be on the look out for other measles cases.

2.) To remind physicians of appropriate measles prophylaxis measures.

3) To encourage medical providers to use every contact with children as an opportunity to bring them up to date on the MMR vaccine. Low grade fever or URI are not contraindications.

4) To urge immediate reporting by telephone of all suspected measles cases to the Bureau of Commmunicable Disease Control. Call 554-2830.

Physicians have an important role in slowing and stopping the spread of this disease. When seeing patients, physicians are urged to follow the recommendations below which are based on guidelines provided by the ACIP and the California State Department of Health Services.

Vaccine Recommendations for exposed persons:

Persons born prior to 1957:

These persons are considered likely to have been infected naturally and, therefore, appear to be at very low risk of infection. Vaccine is not usually recommended. However, there is no upper age limit beyond which measles vaccine is harmful.

SEE OTHER SIDE

All persons born in 1957 or later and over the age of 12 mos:

Unless these persons have a record of physician diagnosed measles disease or documentation of the receipt of two doses of measles vaccine on or after the first birthday, they should be assumed to be susceptible and given MMR or MR vaccine. If it is given within 3 days of exposure, the vaccine is likely to provide protection and it is preferable to immune-globulin (IG). Even if it is more than 3 days after exposure, the vaccine should still be given to prevent illness from future exposures. Vaccine can be given at any time up until the appearance of symptoms. Persons who are immunized and still develop the disease should be urged to contact their physician so follow up can be initiated. Assistance by Public Health Staff is available: CALL 554-2830

Children less than 12 months:

These children who have had a specific exposure to measles should receive IG rather than MMR for protection (see below).

Immune Globulin Recommendations for Exposed Persons:

Unimmunized Children under 12 months of age	IG given within six days after first exposure will prevent or modify the illness. The recommended dosage is 0.11 ml/lb of body weight (0.25 ml/kg). This dosage is higher than what is normally given for exposure to other illnesses. The maximum dosage is 15 ml.
Pregnant women	Same as above.
Immunodeficient or immunosuppressed persons	The recommended dosage is 0.22 ml/lb (0.5 ml/kg), twice that of the above two groups. The maximum dosage continues to be 15 ml.

IG will provide protection for 1 to 2 months. Three months after administration, persons who received IG prophylaxis and who are not pregnant or immunodeficient, and are 15 months of age or older, should receive measles vaccine.

Vaccine Recommendations for Non-exposed Persons:

Incompletely immunized individuals:

Current ACIP and Red Book recommendations are that every individual should receive 2 doses of vaccine. The first dose should be given at age 15 months and the second at elementary, secondary, or college entry. In California's public immunization programs, the current lack of sufficient funding makes the routine provision of a second dose of vaccine impossible at this time, buteExceptions can be made in outbreak situations. It should be noted that CHDP and MediCal will pay for the second measles dose at this time.

There are no side effects in giving an immune person the measles vaccine. The decision to administer or delay vaccination because of a current or recent febrile illness depends largely on the cause of the illness and the severity of symptoms. Minor illnesses, such as a mild upper-respiratory infection with or without low grade fever, are not contraindications for vaccination.

Every contact with a child or adult in the health care system should be viewed as an opportunity to update and complete the measles immunization.

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CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING Dec. 30, 1989

DISEASE	CASES REPORTED WEEKS 49 THROUGH 52			TOTAL CASES REPORTED TO DATE		
	1987	1988	1989	1987	1988	1989
AIDS	112	126	136	1456	1603	1913
AMEBIASIS	34	25	33	401	378	315
CAMPYLOBACTER	29	44	47	406	529	666
COCCIDIOIDOMYCOSIS	-	1	-	2	8	7
DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS	54	48	82	766	695	775
GIARDIASIS	34	28	22	301	410	397
GONORRHEA	556	546	369	6351	6657	4798
HEPATITIS Type A	5	9	18	167	264	265
HEPATITIS Type B	8	19	11	170	104	88
HEPATITIS Non A-Non B	2	3	2	19	19	10
HEPATITIS Type Unspecified	1	-	-	8	5	7
LEPROSY	-	-	-	9	1	3
MALARIA	2	7	1	18	24	39
MEASLES	-	-	-	12	5	11
MENINGITIS, BACTERIAL	1	-	2	9	4	23
MENINGITIS, VIRAL	-	3	3	1	13	29
MUMPS	-	-	-	7	7	1
PERTUSSIS	-	-	-	3	3	7
PSITTACOSIS	-	-		1	1	
RUBELLA	-		-	4		2
SALMONELLOSIS	14	21	14	218	235	226
SHIGELLOSIS	27	31	24	424	429	404
SYPHILIS, Total	44	73	65	686	633	644
SYPHILIS, Primary & Secondary	18	20	28	251	232	239
TUBERCULOSIS (all forms)	24	26	25	321	314	284
TYPHOID FEVER	-	3	1	3	18	8
Total deaths reported this period		680	649		8678	8697
Deaths from pneumonia this period		23	18		255	331

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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

Vol. 6, No. 3 March 1990

Hepatitis A in San Francisco

A precipitous drop in hepatitis A incidence in San Francisco occurred in 1981. Surveillance data for hepatitis in the county are available from 1960 to the present. Hepatitis A rates, driven by cases in males, rose remarkably in 1968 and remained elevated until 1981 when they plunged dramatically (Figure 1).

Information on race/ethnicity is available beginning in 1986. A total of 831 cases of hepatitis A was reported from 1986-1989. Of these, 487 (59%) were white (non-Hispanic), 104 (13%) were black (non-Hispanic), 35 (4%) were Asian or Pacific Islander, 106 (13%) were Hispanic, 4 (0.5%) were Native American and 95 (11%) were of other or unknown race/ethnicity (Figure 2).

Reported hepatitis A incidence is consistently higher in males than in females (with the exception of 1962, 1986 and 1987), at least double the rate in females. Hepatitis A is most common in the 20-29 year age group in both males and females (Figure 3, 4).

Editorial Note. The racial/ethnic distribution of hepatitis A, unlike that for hepatitis B, closely reflects the population of the city except for Asians or Pacific Islanders (4% of cases, 22% of population). This disparity could be attributed to unrecognized and unreported cases occurring in children from this racial/ethnic group, or could be due to other reporting artifacts.

Hepatitis B incidence in San Francisco showed sharp peaks centered on 1968 and 1980. Hepatitis A incidence remained more or less elevated from 1968 through 1980. These high rates were especially true of young males for both hepatitis A and hepatitis B. Rates for both these diseases dropped precipitously in 1981 - close to the time when the number of rectal gonorrhea cases began to decline. A dramatic increase in the number of cases of amebiasis reported in 1980 and 1981 demonstrated the phenomenon which eventually resulted in the description of this and other enteric diseases as sexually transmitted. The high incidence of hepatitis A in young males in the years from 1976 to 1981, combined with the above information, leads to the suggestion that hepatitis A is or was transmitted by sexual contact, at least among males.

Reported by the Bureau of Communicable Disease Control.

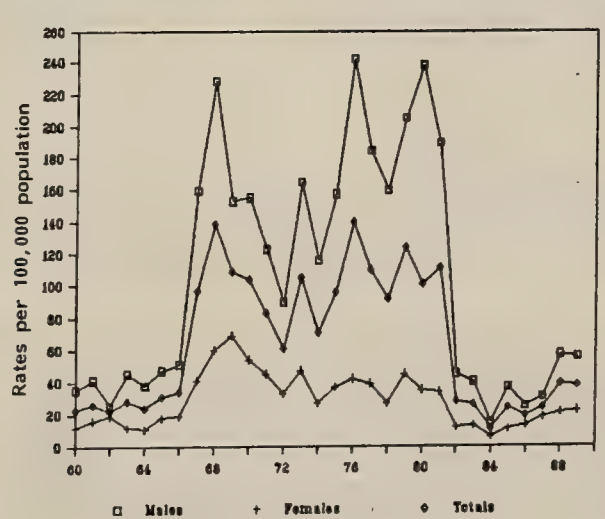

Figure 1. Hepatitis A incidence adjusted by age and sex of patient, San Francisco 1960-1989

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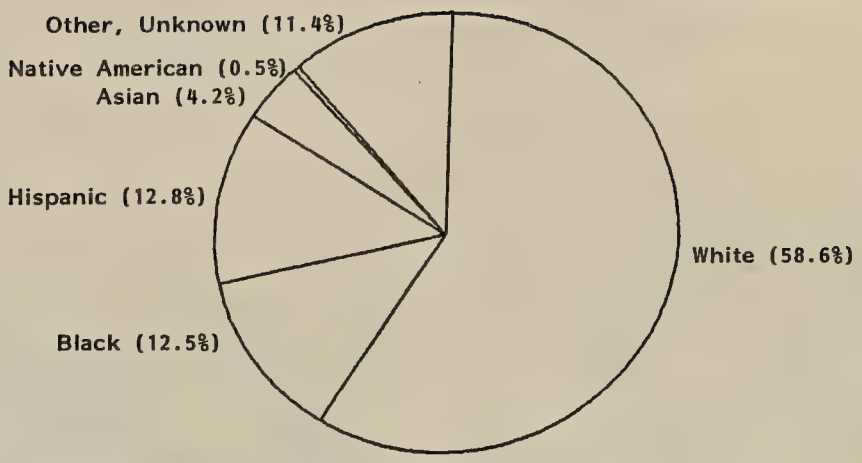

Figure 2. Hepatitis A cases by race/ethnicity
San Francisco, 1986-1989

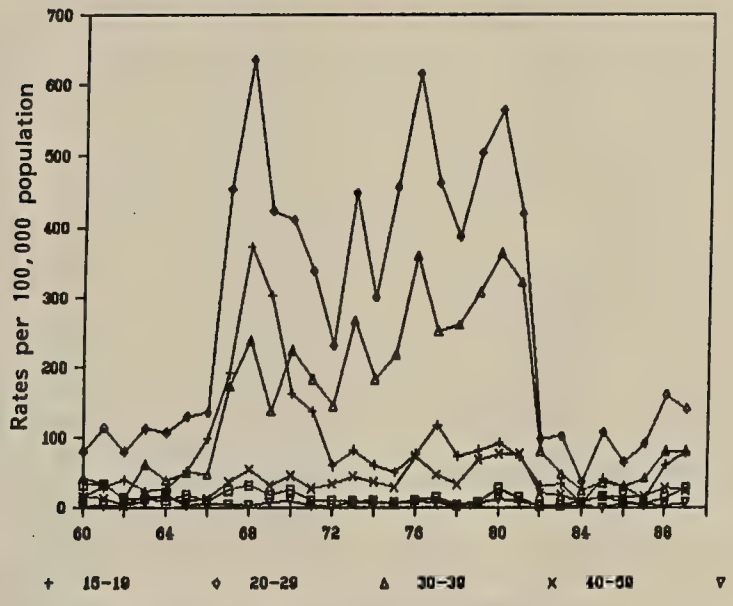

Figure 3. Hepatitis A incidence for males by
age of patient, San Francisco, 1960-1989

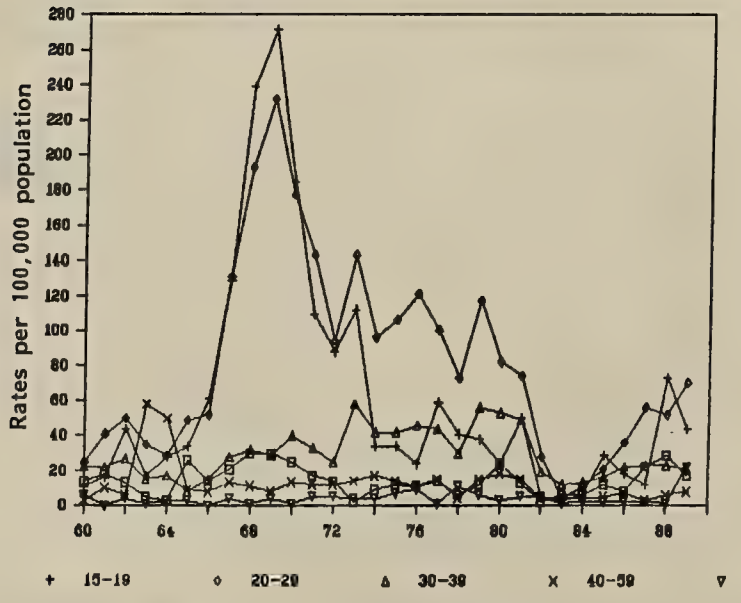

Figure 4. Hepatitis A incidence for females by
age of patient, San Francisco, 1960-1989

SAN FRANCISCO STD PREVENTION/TRAINING CENTER
PRESENTS

STD UPDATE: ADOLESCENTS

THURSDAY, MAY 3 and FRIDAY, MAY 4, 1990

The two-day course includes updates on:

adolescent risk behaviors
sexual history-taking
gonorrhea
chlamydia
pelvic inflammatory disease
current interventions
human papilloma virus
genital ulcers
human immunodeficiency virus
drug use
pregnancy
legal issues

Faculty

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Cherrie Boyer, Ph.D., Adolescent Medicine, U.C.S.F.
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Pre-registration is required. For an application packet or further information, call the San Francisco STD Prevention/Training Center at (415) 431-0751, or write to: San Francisco STD P/T Center, 1372 Mission Street, San Francisco, CA 94103. CME credit is available for participants attending the entire two days of training.

This two-day training course is offered to clinicians in practices involving STD diagnosis, treatment and counseling, and to other interested individuals. The San Francisco Sexually Transmitted Disease Prevention/Training Center, funded by the Centers for Disease Control, is a joint project of the San Francisco Department of Public Health, the University of California San Francisco School of Medicine and the Centers for Disease Control. Training courses are provided at no charge to participants.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING February 3, 1990

DISEASE	CASES REPORTED WEEKS 1 THROUGH 5			TOTAL CASES REPORTED TO DATE		
	1988	1989	1990	1988	1989	1990
AIDS	186	145	219	186	145	219
AMEBIASIS	36	22	24	36	22	24
CAMPYLOBACTERIOSIS	42	63	49	42	63	49
CHANCROID			4			4
CHLAMYDIAL INFECTIONS			248			248
GIARDIASIS	27	24	36	27	24	36
GONORRHEA	605	647	398	605	647	398
H. INFLUENZAE INVASIVE DISEASE			1			1
HEPATITIS Type A	19	16	34	19	16	34
HEPATITIS Type B	11	6	10	11	6	10
HEPATITIS Non A - Non B	7			7		
LISTERIOSIS	3		1	3		1
LYME DISEASE	1			1		
MALARIA	2	1	3	2	1	3
MEASLES	1			1		
MENINGOCOCCAL INFECTIONS	1	4	1	1	4	1
PELVIC INFLAMMATORY DISEASE			32			32
PERTUSSIS		1			1	
RUBELLA						
SALMONELLOSIS	25	18	18	25	18	18
SHIGELLOSIS	37	36	21	37	36	21
SYPHILIS, Total	35	53	86	35	53	86
SYPHILIS, Primary & Secondary	16	19	39	16	19	39
TUBERCULOSIS	32	21	25	32	21	25
TYPHOID FEVER						
TOTAL DEATHS REPORTED THIS PERIOD	975	934		975	934	
Deaths from pneumonia and influenza	42	35		42	35	
Medical Examiner cases		178			178	
Drug-related cases		19			19	
Cocaine-related cases		9			9	

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Vol. 6, No. 4 April 1990

Hepatitis B in San Francisco

Hepatitis B surveillance data in San Francisco is available from 1960 to the present. Information regarding race was first collected in 1986 and specific risk factor information is available for 1987-89.

In 1968 and 1980, sharp peaks in incidence occurred, and while these increases were observed in both males and females, they were much more marked in males (Figure 1).

Age specific rates show that the peak in 1968 occurred in 15-24 year olds, both male and female (Figures 2, 3). The peak in incidence which occurred at the beginning of the 1980s was in 20-40 year old males, similar to the age group in which AIDS is greatest, and coincident with the time when the acquired immunodeficiency syndrome (AIDS) epidemic is recognized to have begun.

Data on race or ethnicity have been previously presented (1). The percentage of reported cases which occurred in homosexual or bisexual males has risen from 38 to 41% (not significant) from 1987 to 1989 (Table 1), whereas, intravenous (IV) drug use as a risk factor showed a significant reduction from 1987 to 1988 ($p>.02$), a trend which continued in 1989 (Table 2).

Four cases of hepatitis B in healthcare workers were reported following needlestick injuries, two in 1987 and two in 1989. A total of 7 transfusion-associated cases were reported since 1983, two each in 1983 and 1985; and one each in 1984, 1986 and 1987.

Editorial note: There continues to be a disturbingly high incidence of hepatitis B in 20-29 year old males. This indicates not only a failure of immunization, but sexual or drug-using activity which places this age group at risk for human immunodeficiency virus (HIV) infection. Conversely, that older males are not participating in risk behavior cannot be assumed, since the lower incidence of cases in this age group may only indicate lack of susceptibility.

There was a dramatic decline in the number of hepatitis B cases diagnosed at San Francisco General Hospital from 1987 to 1988. This is unlikely to be a reporting artifact since investigation revealed no changes in staffing or protocol. In late March 1988, as part of an effort to curtail HIV transmission among IV drug users, San Francisco launched a "Bleachman" campaign advocating the use of bleach to clean needles and syringes. It is not unreasonable to infer that this campaign has resulted in a reduction in transmission of hepatitis B among IV drug users and consequently, a reduction in the number of patients presenting for care at San Francisco General Hospital.

None of the four healthcare workers who had hepatitis B in association with needlestick injuries had had either pre-exposure immunization or post-exposure prophylaxis for hepatitis B. The first case was stuck by a needle on a tray she was cleaning. The source patient was not identified. She did not report the incident, nor did she receive treatment. The second case was stuck by a needle for whom the source patient was identified as HBsAg negative and anti-HBc positive. The needlestick may not have been the source of her infection. She was treated at the time but not given hepatitis B vaccine or immune globulin. The third case was a San Francisco physician who sustained an exposure while working in a developing country. He had not been previously immunized and no effort at prophylaxis was undertaken. The fourth case occurred in a hospital phlebotomist who had not been informed of the need for hepatitis

B immunization and received only 2 cc of IG as post-exposure prophylaxis.

Despite the availability of an effective vaccine, we have not utilized it to protect at-risk populations, or to immunize healthcare workers. Current estimates suggest that there are 4,000 to 6,000 deaths a year in the United States from hepatitis B. Of these, approximately 300 are healthcare workers.

The development of recombinant vaccine (which does not carry the risk of a blood product vaccine); the promulgation of OSHA standards requiring employers to offer the vaccine; and increasing awareness of hepatitis B as a significant health problem, offer the opportunity to improve vaccine coverage among healthcare workers. Concerted efforts are necessary to implement the use of the hepatitis B vaccine for what should be a vaccine-preventable disease.

Reported by the Bureau of Communicable Disease Control.

Reference

1. San Francisco Department of Public Health. Hepatitis B in San Francisco, 1983-1987. San Francisco Epidemiologic Bulletin 1987;3(12):57-59.

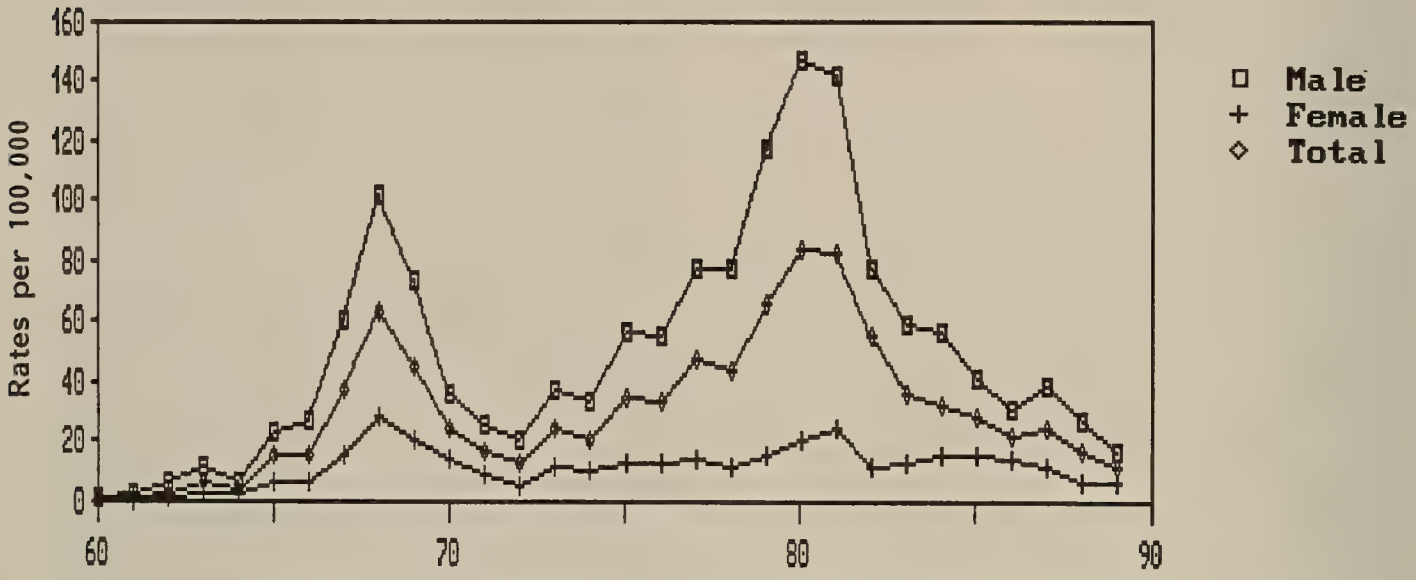

Figure 1. Hepatitis B incidence adjusted by age and sex of patient, San Francisco, 1960-1989

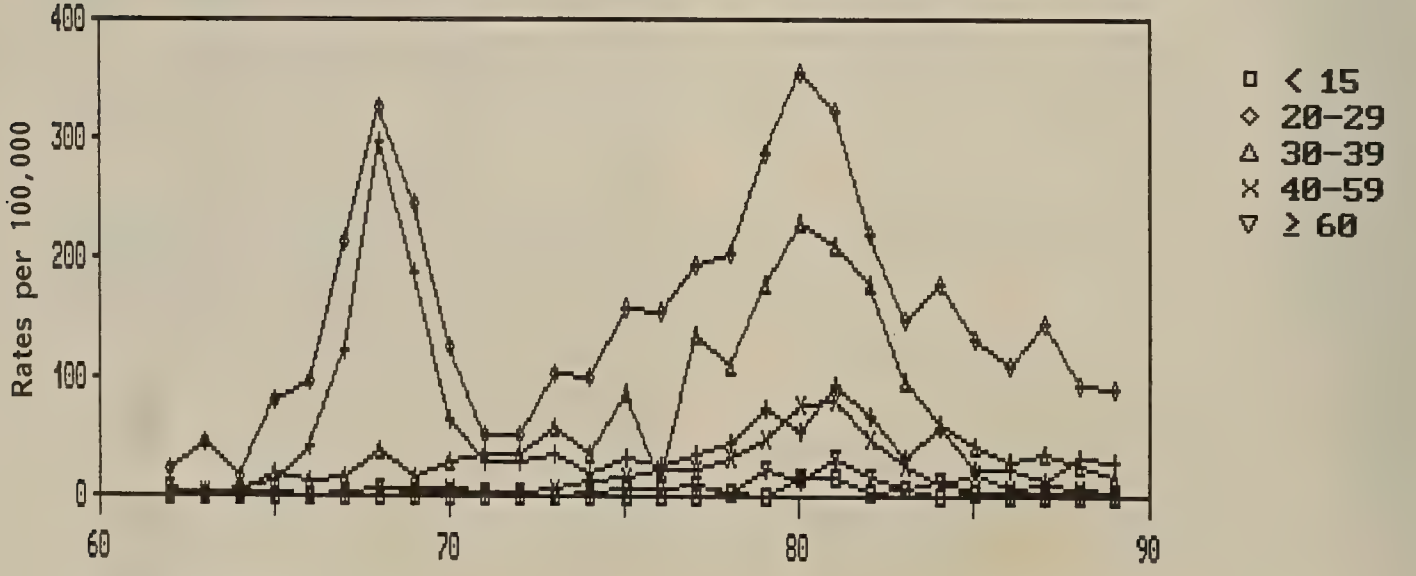

Figure 2. Hepatitis B incidence for males by age of patient, San Francisco, 1960-1989

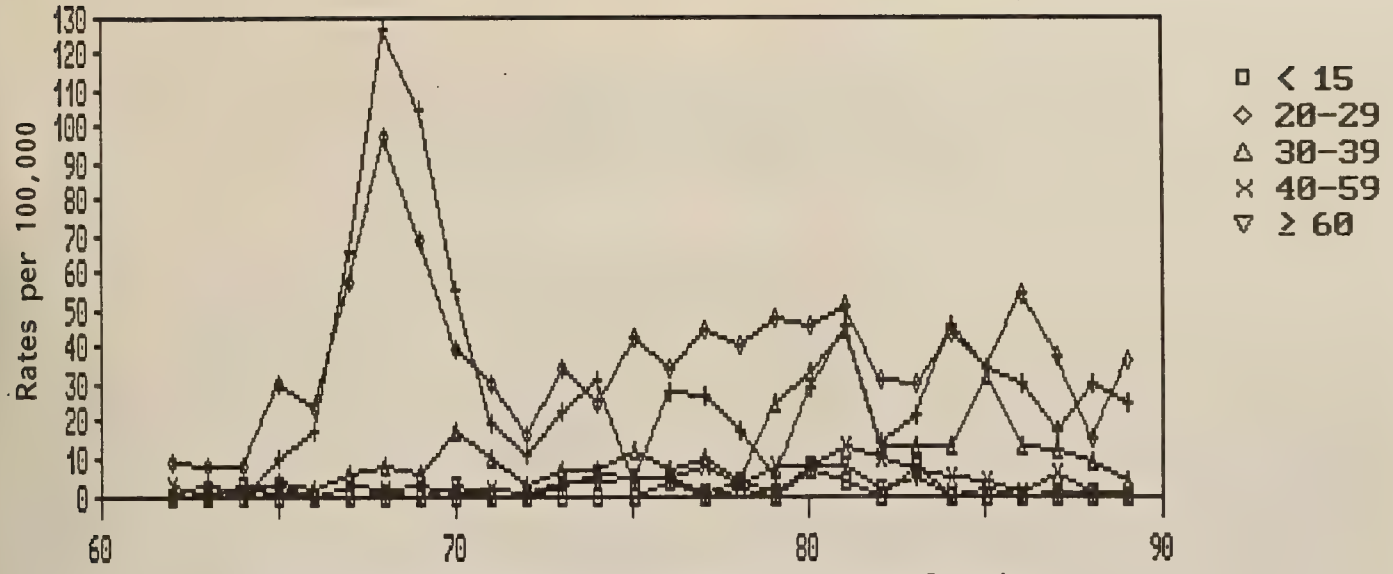

Figure 3. Hepatitis B incidence for females by age of patient, San Francisco, 1960-1989

Table 1. Hepatitis B cases by sexual orientation

	1987		1988		1989	
	male	female	male	female	male	female
Homosexual	36	2	32	0	22	1
Bisexual	12	0	5	0	5	0
Heterosexual	58	36	28	17	23	19
Unknown	19	7	16	6	15	3
Total	125	45	81	23	65	23

Table 2. Hepatitis B cases by IV drug use

	1987	1988	1989
Yes	63	23	20
No	90	65	51
Unknown	17	16	17
Total	170	104	88

Revised AZT Labeling

Two recent clinical trials conducted by the National Institute of Allergy and Infectious Diseases (NIAID) AIDS Clinical Trials Group indicated that some individuals infected with human immunodeficiency virus (HIV) who did not have AIDS, benefited from taking the antiviral drug AZT (Zidovudine). In one study of persons who were infected with HIV but asymptomatic, those subjects whose T-helper (CD4) lymphocyte count was less than 500 and who took AZT, were significantly less likely to develop AIDS or severe AIDS-related conditions (ARC).

The Food and Drug Administration (FDA) has approved changes in AZT labeling to include HIV-infected individuals with CD4 counts of less than 500. A recent State-of-the-Art Conference on AZT Therapy for Early HIV Infection (sponsored by NIAID) strongly recommended that AZT therapy be initiated for both symptomatic and asymptomatic HIV-infected individuals whose CD4 counts are below 500. A summary of these recommendations was recently published in the Journal of the American Medical Association.

These recommendations provide important incentives for persons who may be at risk for HIV infection to learn their antibody status. In addition, those persons who are HIV infected should have their clinical and immune status monitored on a regular basis.

Reference

1. -- , Recommendations for zidovudine: early infection. JAMA 1990;263: 1606-1609.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING March 3, 1990

DISEASE	CASES REPORTED WEEKS 6 THROUGH 9			TOTAL CASES REPORTED TO DATE		
	1988	1989	1990	1988	1989	1990
AIDS	111	142	172	297	287	391
AMEBIASIS	20	14	19	56	36	43
CAMPYLOBACTERIOSIS	42	46	39	84	109	88
CHANCROID			2			6
CHLAMYDIAL INFECTIONS			198			446
GIARDIASIS	18	23	22	45	47	58
GONORRHEA	490	413	357	1095	1060	755
H. INFLUENZAE INVASIVE DISEASE		1	-		1	1
HEPATITIS Type A	18	24	17	37	40	51
HEPATITIS Type B	9	6	13	20	12	23
HEPATITIS Non A - Non B	-			7		
LISTERIOSIS	1	1	-	4	1	1
LYME DISEASE	1			2		
MALARIA	2	2	2	4	3	5
MEASLES	4		1	5		1
MENINGOCOCCAL INFECTIONS	-	1	1	1	5	2
PELVIC INFLAMMATORY DISEASE			40			72
PERTUSSIS		-			1	
RUBELLA						
SALMONELLOSIS	17	14	13	42	32	31
SHIGELLOSIS	24	29	15	61	65	36
SYPHILIS, Total	50	48	72	85	101	158
SYPHILIS, Primary & Secondary	16	10	27	32	29	66
TUBERCULOSIS	33	23	20	65	44	45
TYPHOID FEVER						
TOTAL DEATHS REPORTED THIS PERIOD	819	734		1794	1668	
Deaths from pneumonia and influenza	53	28		95	63	
Medical Examiner cases		134			312	
Drug-related cases		22			41	
Cocaine-related cases		9			18	

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Vol. 6, No. 5 May 1990

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Tuberculosis in San Francisco, 1989 Summary

Two hundred and eighty-six cases of new active tuberculosis (TB) were reported in San Francisco in 1989, for a case rate of 38.9 cases per 100,000 population. This is four times the provisional case rate of 9.1 per 100,000 in the U.S. as a whole. The number of new TB cases in San Francisco has remained stable for several years (Table 1).

Table 1. Tuberculosis cases, San Francisco, 1985-1989

Year	Number New Cases
1985	306
1986	283
1987	322
1988	313
1989	286

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The demographic profile of cases, however, has changed substantially due to the influence of human immunodeficiency virus (HIV) infection and AIDS. In 1987 and 1988, 14% of new TB cases had an AIDS diagnosis, and in 1989, 18.5% of TB cases also carried a diagnosis of AIDS.

Age: Almost half (43%) of the 286 TB cases in 1989 occurred in the 25-44 year old age group, the age group most impacted by HIV disease. Four cases of active TB were reported in the 0-4 year old age group, similar to the 5 reported in 1988. Cases in this age group can be considered sentinel health events because they clearly represent recent transmission of tuberculosis. Persons 65 years and over comprised only 20% of all cases in 1989 (Figure 1).

Sex: In 1989, 206 cases (72%) were male. The male:female ratio was 1.5:1 in those under age 25, and rose to 2.7:1 for those 25 years old and over. Male predominance was most marked in Hispanics and non-Hispanic whites, ages 25-44 where the male:female ratio was 9.5:1 and 7.5:1 respectively.

Ethnicity: Prior to 1987, over 50% of all new cases of TB occurred among Asians, whereas since 1987, Asians accounted for less than half of new cases. In 1989, 48.6% of new TB cases were Asian; 22.7% were white; 16.1% were black; 10.9% were Hispanic; and 1.8% were others (Figure 2). Among Asian subgoups, Chinese and Filipinos experienced the largest number of new cases.

Since 1986, the number of foreign-born cases has ranged from 177 to 186. In 1989, 179 cases were foreign-born, and 107 cases were American-born.

Site of Disease: In 1989, 211 (74%) patients had pulmonary tuberculosis. In 32 (11%) of these cases, an extrapulmonary site was also involved. An additional 75 (26%), had only extrapulmonary tuberculosis. The extrapulmonary sites of disease were as follows:

Table 2. Extrapulmonary sites of disease, San Francisco, 1989

Site	Number of Cases	Percentage of Extrapulmonary Cases (%)
Lymphatic	34	31
(Intrathoracic)	(7)	(7)
Pleural	26	24
Miliary	9	8
Bone and/or joint	6	6
Genito-Urinary	5	5
CNS	4	4
Peritoneal	4	4
Other	21	20

Drug Resistance: Of the 286 TB cases reported in 1989, 27 (9.4%) were resistant to one or more anti-TB medications.

Drug resistant patients usually require longer and more complex therapy. Twenty-two cases were INH resistant, 7 cases were Streptomycin resistant, of which 5 were also INH resistant. Two cases were Rifampin resistant, of which 1 was also resistant to INH. Ethionomide resistance was seen in 2 cases, one of which was combined with Cycloserine resistance. Seventy-nine percent of drug resistant cases were foreign-born, predominantly Chinese, Filipino, and Southeast Asian.

Editorial note: San Francisco continues to have one of the highest case rates for tuberculosis in the country. Ongoing immigration from Asia and Latin America, as well as the impact of HIV immunosuppression contribute to this high rate. Continued control efforts, particularly among close contacts of active cases is of great importance in limiting the morbidity of tuberculosis in future years.

Reported by the Tuberculosis Control Division.

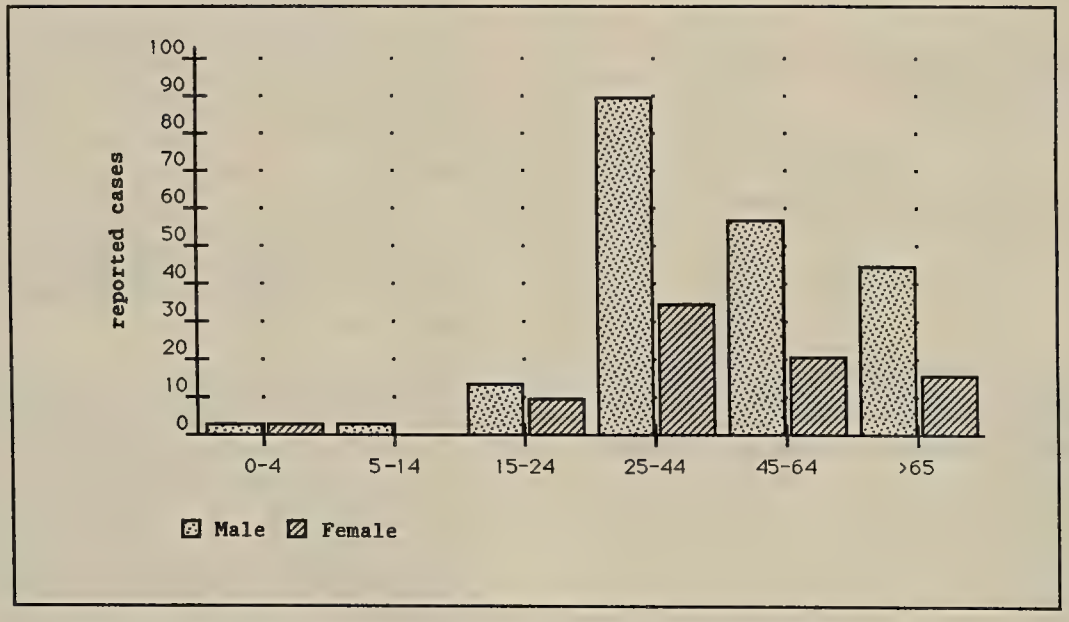

Figure 1. Reported tuberculosis cases by age and sex, San Francisco, 1989

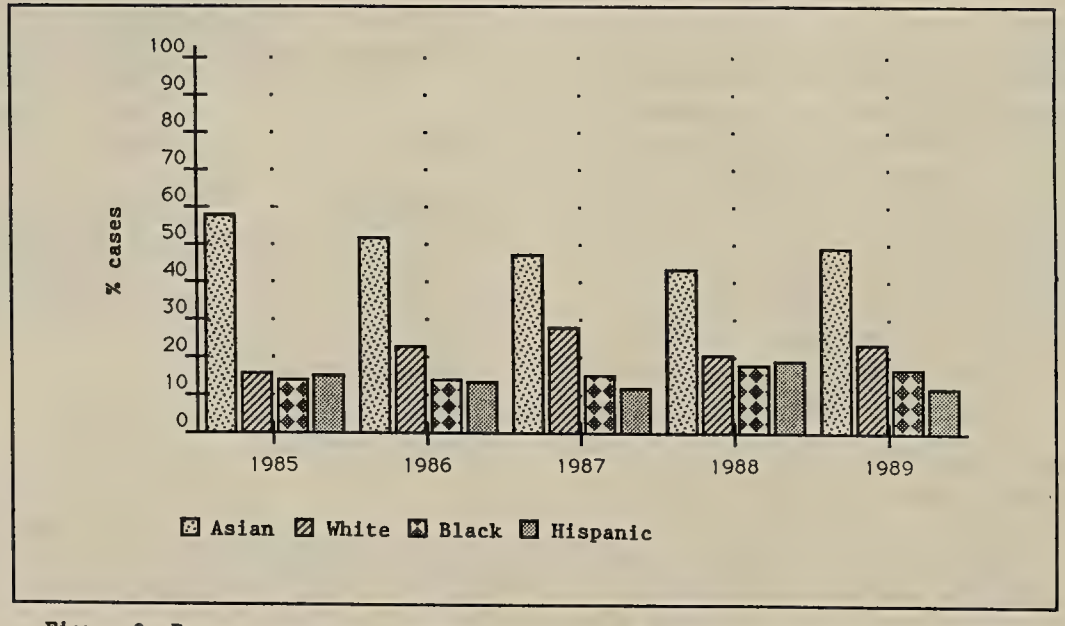

Figure 2. Percent reported tuberculosis cases by ethnicity and year of report, San Francisco, 1985-1989

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- Pathogenesis/Case Identification
- Treatment Regimens
- Children, Contacts, Investigation
- PPD Interpretation/Screening/BCG
- Transmission/Isolation in Prisons, Institutions, and Nursing Homes
- AIDS and Tuberculosis
- PPD and Prophylaxis
- AIDS/M. Avium Complex
- Drug Resistance/New Treatments
- Cross Cultural Issues in TB

Date/Time: **Saturday, October 13, 1990 - 8 a.m. - 4:30 p.m.**
Place: **Laurel Heights Conference Center**
3333 California Street, San Francisco, California

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CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING March 31, 1990

DISEASE	CASES REPORTED WEEKS 10 THROUGH 13			TOTAL CASES REPORTED TO DATE		
	1988	1989	1990	1988	1989	1990
AIDS	157	177	174	454	464	565
AMEBIASIS	34	15	21	90	51	64
CAMPYLOBACTERIOSIS	41	33	41	125	142	129
CHANCROID			7			13
CHLAMYDIAL INFECTIONS			246			692
GIARDIASIS	30	32	18	75	79	76
GONORRHEA	664	376	326	1759	1436	1081
H. INFLUENZAE INVASIVE DISEASE		6	2		7	3
HEPATITIS Type A	24	12	21	61	52	72
HEPATITIS Type B	5	12	18	25	24	41
HEPATITIS Non A - Non B	3		1	10		1
LISTERIOSIS	–	–	3	4	1	4
LYME DISEASE	–			2		
MALARIA	–	4	1	4	7	6
MEASLES	–		5	5		6
MENINGOCOCCAL INFECTIONS	1	–	–	2	5	2
PELVIC INFLAMMATORY DISEASE			41			113
PERTUSSIS		–			1	
RUBELLA						
SALMONELLOSIS	19	16	8	61	48	39
SHIGELLOSIS	38	34	22	99	99	58
SYPHILIS, Total	65	60	74	150	161	232
SYPHILIS, Primary & Secondary	27	20	36	59	49	102
TUBERCULOSIS	29	23	27	94	67	72
TYPHOID FEVER	2	2		2	2	
TOTAL DEATHS REPORTED THIS PERIOD	785	676		2579	2344	
Deaths from pneumonia and influenza	32	29		127	92	
Medical Examiner cases		144			456	
Drug-related cases		31			72	
Cocaine-related cases		12			30	

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Vol. 6, No. 6 June 1990

Preliminary report on AIDS community outreach project in Bayview-Hunter's Point area

From early 1988 through April, 1990, the San Francisco Department of Public Health, in collaboration with the Bayview-Hunter's Point Foundation, participated in a National AIDS Demonstration Research Project funded by the National Institute on Drug Abuse. The project was designed to reach out-of-treatment injection drug users (IDUs), and their non-injection drug-using female sexual partners.

The project had two components. During the first part of the project, community health outreach workers (CHOWs) were deployed in the Bayview-Hunter's Point area of San Francisco to: a) determine the "hangouts" of IDUs; b) provide AIDS education on the streets, shooting galleries or other locations; c) refer individuals to various medical and social services; and d) distribute bleach and condoms and other AIDS educational materials.

The second component of the project involved interviewing IDUs and their female sexual partners (referred via CHOWs) using a standardized questionnaire. Pre-test counseling and human immunodeficiency virus (HIV) antibody testing were offered at the time of the interview. Participants were advised that test results and post-test counseling would be available two weeks after blood samples were drawn. All interviews were conducted during the period April through July, 1989.

Subjects and methods. The specific target populations were individuals, ≥18 years of age, who had injected drugs during the previous six months, and who were not currently in drug treatment; or they were the non-injection drug-using female sexual partners of IDUs. All study participants resided in the Bayview-Hunter's Point area of San Francisco. Subjects were recruited via the CHOWs and by word of mouth among the injection drug users. During the recruitment process, CHOWs provided an explanation of the project's goals, the approximate length of time for the interview, the reason for HIV antibody testing, and the fact that strict confidentiality would be maintained. Potential subjects were given a telephone referral card for purposes of making an appointment.

At the beginning of the interview, all respondents signed a consent form which outlined the purpose of the project and explained that participation in the interview and HIV antibody testing was voluntary; that the interview could be stopped at any time without penalty; that they could choose not to receive test results; and that they would be paid $25.00 for all components of the process (interview, HIV antibody testing, pre- and post-test counseling), or $10.00 for the interview alone.

Instrument. The survey instrument collected information on demographic characteristics, drug use patterns and behaviors, sexual behaviors, and medical history. For those acknowledging drug use, detailed information was obtained regarding the type of drug(s) used, and the method and frequency of use. For sexual behaviors, information was obtained regarding various types of sexual practices and the use of condoms. Information related to medical conditions commonly experienced by intravenous drug users was also elicited.

A supplemental questionnaire was employed to gain further understanding of reasons for continued drug use, whether respondents had ever stopped using drugs on their own, and what circumstances triggered them to begin using drugs again.

Variables of interest. We were interested in examining demographic characteristics, drug use patterns and sexual behaviors; and we were interested in measuring the seroprevalence of HIV in this population. These examinations and measurements would help to identify those individuals whose risk for transmission of HIV potentiated perinatal transmission.

Results

Demographic characteristics. Of the 377 participants who completed questionnaires, 222 were male and 154 were female; on one questionnaire, sex was not specified. Three hundred and thirteen (83%) were IDUs, and 62 were non-injection drug-using female sexual partners of IDUs. Two participants did not specify drug use behavior. The male to female ratio of injection drug users was 2.7:1. Race/ethnicity was distributed as follows: African American, 358 (95%); white, 11 (3%); Hispanic, 6 (1.6%); Asian, 1; and 1 unknown.

The majority (84.9%) of participants were in the 25-45 age groups; <5% were in the 18-24 age group, and nearly 10% were in the 46-60 age group (Table 1).

Sixty percent of respondents reported having completed high school, or higher grade level. Forty-two percent reported receiving public assistance in the previous 6 months.

Drug use practices. The patterns of drugs first used (exclusive of alcohol) indicated that marijuana was the overwhelming drug of first use (55.4%), followed by heroin (16.6%), amphetamines (12.1%), and cocaine (8.3%).

The majority of respondents began injection drug use between the ages of 16-24, followed by the 25-34 age group. For those individuals who began injection drug use when they were <16 years of age or ≥35 years of age, the respective frequencies were 3-4%, and 4-7% (Table 2).

Heroin injectors injected daily 50% of the time, whereas cocaine and heroin/cocaine injectors injected daily 23% and 30% respectively (Table 3).

Sexual practices. Of respondents questioned, 321 (85%) indicated having had sex in the previous 6 months. Of these, 226 (70%) had one sexual partner, 27 (8%) had 2, and 26 (8%) had 3 sexual partners. An additional 42 (13%) had more than 3 sexual partners. Of these, less than 10% reported using condoms with each sexual partner.

Seroprevalence. Of the 377 participants, 359 (95%) participated in HIV antibody testing and pre-test counseling. Of these, 246 (77%) returned for results reporting and post-test counseling. The HIV seroprevalence in this population was 15%.

Discussion. Approximately 85% of the participants in this study were between 25 and 45 years of age; 95% were African American, 60% completed high school, and 83% reported a history of injection drug use.

With respect to patterns of marijuana and alcohol use, the study population is similar to other populations studied. Eighty-one percent of respondents acknowledged being intoxicated by 24 years of age.

While the majority of IDUs began injection drug use between the ages of 16 and 34, 3 to 4% actually began when they were younger than 16 years of age. Also noteworthy, are those individuals who began injection drug use when they were ≥35 years of age. For those who injected heroin alone, frequency tended to be daily as compared to those who injected cocaine, or heroin and cocaine in combination. However, there is considerable overlap in these groups, and further analysis is needed to understand these behaviors.

More than 10% of respondents questioned about sexual activity reported having more than 3 sex partners in the previous six months; and less than 10% of these respondents reported using condoms consistently.

Surprisingly, of those who participated in pre-test counseling and

HIV antibody testing, more than 75% returned for their results and post-test counseling.

Editorial note. Although the HIV seroprevalence rate of 15% is lower than reported in previous studies of IDUs in San Francisco (1,2,3), this study suggests that out-of-treatment drug users are at considerable risk for HIV infection both from needle use and sexual behavior. Further analysis of the current data set, as well as within group comparisons, will allow for a better understanding of this population.

Submitted by Community Public Health Services.

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Table 1. Age distribution of respondents

Age Group	N (%)
18-24	17(4.6)
25-35	153(40.0)
36-45	170(44.9)
46-60	37(9.9)

Table 2. Age at first use of various intravenous drugs

Age Group	Heroin N=270	Cocaine N=272	Heroin/Cocaine N=231
<16 years	12(4%)	11(4%)	7(3%)
16-24	163(60%)	155(57%)	129(56%)
25-34	83(30%)	88(32%)	80(35%)
35 and over	12(4%)	18(7%)	15(6%)

Table 3. Frequency of injection of various drugs

Frequency	Heroin N=256	Cocaine N=216	Heroin/Cocaine N=198
1-3X/Month	77(30%)	116(53%)	98(49%)
2-6X/Month	51(20%)	51(24%)	41(21%)
Daily	128(50%)	49(23%)	59(30%)

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING April 28, 1990

DISEASE	CASES REPORTED WEEKS 14 THROUGH 17			TOTAL CASES REPORTED TO DATE		
	1988	1989	1990	1988	1989	1990
AIDS	132	209	198	586	673	763
AMEBIASIS	36	22	25	126	73	89
CAMPYLOBACTERIOSIS	32	47	49	157	189	178
CHANCROID			6			19
CHLAMYDIAL INFECTIONS			195			887
GIARDIASIS	37	23	30	112	102	106
GONORRHEA	540	391	316	2299	1827	1397
H. INFLUENZAE INVASIVE DISEASE		7	3		14	6
HEPATITIS Type A	25	23	21	86	75	93
HEPATITIS Type B	5	5	13	30	29	54
HEPATITIS Non A - Non B	-		1	10		2
LISTERIOSIS		2	1	4	3	5
LYME DISEASE	-			2		
MALARIA	2	8	2	6	15	8
MEASLES	-	1	11	5	1	17
MENINGOCOCCAL INFECTIONS	-	3	-	2	8	2
PELVIC INFLAMMATORY DISEASE			20			133
PERTUSSIS	1	-		1	1	
RUBELLA			1			1
SALMONELLOSIS	13	14	12	74	62	51
SHIGELLOSIS	20	43	32	119	142	90
SYPHILIS, Total	45	61	73	195	222	305
SYPHILIS, Primary & Secondary	13	26	33	72	75	135
TUBERCULOSIS	32	20	25	126	87	97
TYPHOID FEVER	5	2	1	7	4	1
TOTAL DEATHS REPORTED THIS PERIOD	697		684	3276		3028
Deaths from pneumonia and influenza	29		28	156		120
Medical Examiner cases			123			579
Drug-related cases			19			91
Cocaine-related cases			7			37

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Vol. 6, No. 7 July 1990

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Recent survival trends for persons with AIDS in San Francisco

In this article, we describe recent survival trends for 7,003 persons with AIDS diagnosed in San Francisco, and examine the relative influence of therapy on survival for a subset of this population.

The study population consists of 7,904 persons with AIDS reported to the San Francisco Department of Public Health between July, 1981 and December 31, 1989. Patients were followed up prospectively at 6-month intervals from time of diagnosis to death, or through the end of the follow-up period, May 15, 1990.

All persons with AIDS diagnosed in San Francisco were included in the study. Approximately 90% of patients were San Francisco residents; 10% were non-residents. Patients were excluded from the analysis if they were initially diagnosed at autopsy, or if their initial diagnosis met only the revised (1) surveillance definition of AIDS (n = 901). This left 7,003 study patients.

Vital status, subsequent diagnoses, and history of therapy were ascertained for each patient through prospective follow-up, which included contacting physicians and/or reviewing medical records at approximately 6-month intervals. Other follow-up methods included a daily review of death certificates and newspaper obituaries, interactions with other health departments and registries, and a confidential cross-match with the National Death Index.

Median survival and the cumulative probability of survival after diagnosis (with standard errors) were calculated using the Kaplan-Meier product-limit method. Cox proportional hazards regression analysis was used to construct a proportional hazards model for predicting length of survival and to identify the independent predictors of survival among those variables studied.

By May 15, 1990, 4,940 (70.5%) of the 7,003 study patients with AIDS had died, 1,670 (23.8%) were still alive, and 393 (5.6%) were unavailable for follow-up. The estimated median survival for all patients was 15.0 months, with an estimated 5-year survival rate of 6.1%. The longest survival was 9.5 years.

The median survival for AIDS patients diagnosed between 1987 and 1989 (18.4 months) was significantly ($p < 0.0001$) improved over that for patients diagnosed in 1986 (13.7 months) or for those diagnosed between 1981 and 1985 (11.2 months). Improved survival was observed in recent years for patients diagnosed with PCP ($p < 0.0001$) or other opportunistic infections ($p < 0.0001$), but not for patients initially diagnosed only with Kaposi's sarcoma.

The survival curves (Figure 1) for patients initially diagnosed with PCP only in San Francisco between 1981 and 1989, show a progressive improvement in survival for patients diagnosed with PCP in 1986 (median = 15.6 months), in 1987 (median = 19.4 months), and in 1988 and 1989 (median = 21.6 months), when compared to patients diagnosed in 1981 to 1985 (median = 10.4 months).

To examine the relative influence of therapy on these survival trends, we collected information on antiviral therapy and other drug therapy for 1,878 of 5,174 patients diagnosed with AIDS in San Francisco from 1986 through 1989. Survival for 1,296 patients with AIDS who received drug therapy at some point during the course of their illness was compared with survival for 582 patients with AIDS who were not receiving any therapy at the time of diagnosis, and if known, subsequent to diagnosis. These data were analyzed using an intention-to-treat approach, which assumes that for all treated patients, the intention was to continue to treat indefinitely. Survival is

therefore calculated without regard to actual duration of therapy.

The data on the length of survival by drug treatment category show that survival was similar for patients treated with zidovudine or aerosolized pentamidine only (Table 1). The number of patients treated with intravenous (IV) pentamidine or ddI alone was insufficient to provide reliable estimates of survival. Among 64 patients treated with ddI alone or in combination with or subsequent to other therapies, survival at 8 months and at 2 years was 92.6% and 79.2%, respectively.

Patients treated with aerosolized pentamidine or other agents in combination with or subsequent to zidovudine therapy exhibited improved survival when compared with patients treated with zidovudine alone (Table 1). Survival for patients treated with zidovudine and acyclovir did not differ significantly from that for patients treated with zidovudine alone. Patients treated with other non-zidovudine combination therapies exhibited a similar survival as that for patients treated with zidovudine alone. All patients receiving drug therapy exhibited significantly improved survival when compared with patients who did not receive therapy.

To examine the effect of therapy on survival while controlling for other cofactors, a proportional hazards model was constructed for the subset of patients for whom histories of therapy were available. The patients' initial diagnosis was the best independent predictor of survival, followed by treatment with zidovudine (with a relative hazard of 0.53), and then by treatment with ddI or IV pentamidine (relative hazards of 0.19 and 0.18, respectively). Patients' age was the next predictor selected into the model of survival (a relative hazard of 1.35 for those 40 years and older). This was followed by treatment with other drug therapies and aerosolized pentamidine (relative hazards of 0.65 and 0.62, respectively), and lastly by year of diagnosis, which demonstrated an increasing hazard for recent years after controlling for the impact of drug therapy. Race/ethnicity, gender, risk group, and version of the AIDS case definition were excluded by the model.

Reported by the Surveillance Branch, AIDS Office.

Editorial Note: These data provide an update to a recent study of survival trends among persons with AIDS in San Francisco (2). These data show that survival following diagnosis of AIDS continues to improve, and that therapy with a variety of agents is primarily responsible for these recent improvements.

Two specific limitations of these data should be mentioned. First, we lacked the clinical and laboratory information needed to identify the degree of immunologic impairment and the stage of HIV infection at the time of diagnosis. The differential survival observed could be attributed to diagnosis earlier or later in the course of HIV infection. However, detailed clinical and laboratory information is not routinely collected by population-based AIDS surveillance programs. We have attempted to minimize the effect of the "lead-time" bias by excluding patients who were diagnosed under the revised surveillance definition of AIDS. Secondly, these data are observational in nature and therefore should not be used to evaluate the clinical safety and effectiveness of drug therapy, which is more properly evaluated in carefully controlled, randomized clinical trials.

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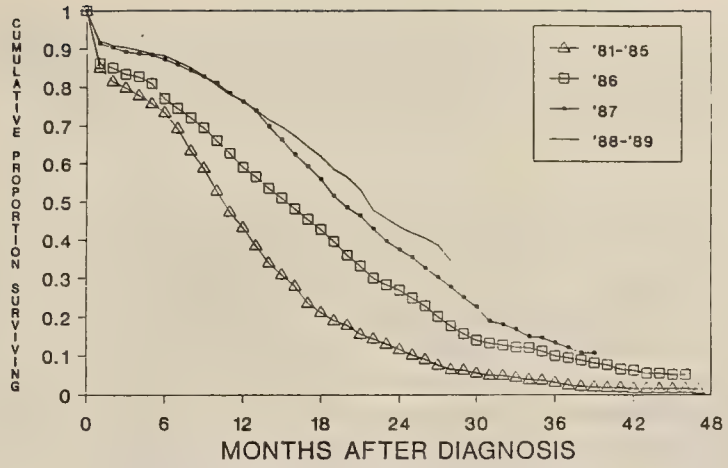

Figure 1. Survival of San Francisco AIDS patients by year of diagnosis: PCP only, 1981-1989

Table 1. Length of survival by drug treatment category, AIDS patients diagnosed in San Francisco, 1986-1989

Treatment Category	Number of Patients	Median Survival (Months)	Cumulative Percent Surviving at 1 Year (+/-SE)
AZT Only	915	23.0	75.6 +/- 1.5
AeroPent Only	26	24.8	79.2 +/- 8.4
IV Pent Only	18	----	92.3 +/- 7.4
ddI Only	17	----	----
AZT + AeroPent	114	25.0	90.0 +/- 3.2
AZT + Acyclovir	53	40.6	65.7 +/- 7.4
AZT + ddI	20	----	88.2 +/- 8.0*
AZT + Other Drugs	76	40.6	88.5 +/- 4.2
Other Drugs	57	23.2	79.6 +/- 5.8
No Treatment	582	13.7	55.8 +/- 2.1

Safe use of capillary blood sampling devices

Recently two outbreaks of hepatitis B have been described associated with improper use of a spring-loaded lancet device to obtain a capillary blood specimen. One of these outbreaks was described in the New England Journal of Medicine (1,2). The second occurred in California and has not been published.

When used correctly, spring-loaded lancet devices are effective and safe. Capillary blood samples are obtained by finger or heel sticks using hand-held single-use lancets or automatic spring-loaded devices. Such devices are in widespread use in hospitals, clinics and private physician offices. Spring-loaded devices typically have two disposable parts: the lancet which is used to puncture the skin, and the platform or endcap which is used to control the depth of the puncture. Health care workers are generally aware of the necessity to replace the lancet after each use, but may fail to replace the platform or endcap, which may become contaminated with the patient's blood.

Health care workers using spring-loaded lancets should be instructed to:

1. Replace the lancet and the platform or endcap after each use.
2. Always order an equal number of platforms or endcaps and lancets when reordering.
3. Dispose of both lancets and platforms in an appropriate sharps container.
4. Discard spring-loaded lancets that do not have replaceable platforms.

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CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING June 2, 1990

DISEASE	CASES REPORTED WEEKS 18 THROUGH 22			TOTAL CASES REPORTED TO DATE		
	1988	1989	1990	1988	1989	1990
AIDS	151	179	218	737	852	981
AMEBIASIS	33	32	29	159	105	118
CAMPYLOBACTERIOSIS	62	59	79	219	248	257
CHANCROID			4			23
CHLAMYDIAL INFECTIONS			254			1141
GIARDIASIS	41	33	25	153	135	131
GONORRHEA	585	427	446	2884	2254	1843
H. INFLUENZAE INVASIVE DISEASE	1	1	6	1	15	12
HEPATITIS Type A	35	38	16	121	113	109
HEPATITIS Type B	11	13	19	41	42	73
HEPATITIS Non A - Non B	1	2	-	11	2	2
LISTERIOSIS	3	-	-	7	3	5
LYME DISEASE	1			3		
MALARIA	3	8	2	9	23	10
MEASLES	-	-	14	5	1	31
MENINGOCOCCAL INFECTIONS	-	1	-	2	9	2
PELVIC INFLAMMATORY DISEASE			35			168
PERTUSSIS	-	1		1	2	
RUBELLA		1	-		1	1
SALMONELLOSIS	19	18	12	93	80	63
SHIGELLOSIS	42	38	32	161	180	122
SYPHILIS, Total	52	52	78	247	274	383
SYPHILIS, Primary & Secondary	21	18	24	93	93	159
TUBERCULOSIS	26	29	47	152	116	144
TYPHOID FEVER	3	1	1	10	5	2
TOTAL DEATHS REPORTED THIS PERIOD	752	767		4028	3795	
Deaths from pneumonia and influenza	24	22		180	142	
Medical Examiner cases		140			719	
Drug-related cases		26			117	
Cocaine-related cases		8			45	

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CITY AND COUNTY OF SAN FRANCISCO • DEPARTMENT OF PUBLIC HEALTH • BUREAU OF COMMUNICABLE DISEASE CONTROL

Vol. 6, No. 8 August 1990

Trends in crack use in an AIDS epicenter: San Francisco, 1986-1989

Injectable cocaine use is associated with increased risk of human immunodeficiency virus (HIV) infection, possibly due to higher rates of injection, needle sharing, and use of shooting galleries among cocaine injectors (1). Although less well documented, smokable cocaine (crack) may also increase risk of HIV infection (2,3). Crack use may be associated with increasing rates of syphilis and other sexually transmitted diseases (STDs) due to the barter of sex for drugs (4), may encourage unprotected sex through disinhibition, and may contribute to HIV transmission through immunosuppressive drug effects (5).

Method. The drug treatment coordinating agency in San Francisco, Community Substance Abuse Services (CSAS), collected standard admission data on all clients entering drug treatment from 1986 to 1989. Data included primary drug of choice, route of administration, and demographic variables. Chi-square analyses were used to compare admissions from April 1, to September 30, 1986 (n = 3,673) with admissions from the same period in 1989 (n = 4,813).

Result. Thirty-one percent reported some cocaine use (primary, secondary, or tertiary drug of choice) in 1986, compared to 42% for the same period in 1989 ($p < .001$). For primary cocaine users the proportion reporting smokable cocaine increased over time from 52% to 73% ($p < .001$), while injecting and inhaling cocaine decreased from 17% to 6% and 29% to 15%, respectively (Figure 1). The proportion of crack users under 26 years old increased from 19% in 1986 to 24% in 1989. Blacks represented 85% of crack clients in 1986, and 79% in 1989; Latinos represented 1% in 1986 and 4% in 1989.

Discussion. Overall, smokable cocaine use more than tripled (213%) from 1986 to 1989 among primary cocaine users entering treatment in San Francisco. Latinos and youths under 26 years of age account for increasing proportions of crack users, and Blacks constitute the majority of users in this sample. Injectable cocaine remained stable over time, while smokable cocaine use increased dramatically. These trends parallel those reported in New York State (6). There is clear and present danger of HIV infection associated with crack cocaine use, particularly among minority youth. Immediate interventions should include: 1) increased treatment for crack cocaine and 2) community-based media education campaigns and street outreach targeting minority youth and sexually active partners. Continued epidemiological studies of crack cocaine trends are needed.

Reported by Community Substance Abuse Services, University of California, Center for AIDS Prevention Studies, San Francisco, California.

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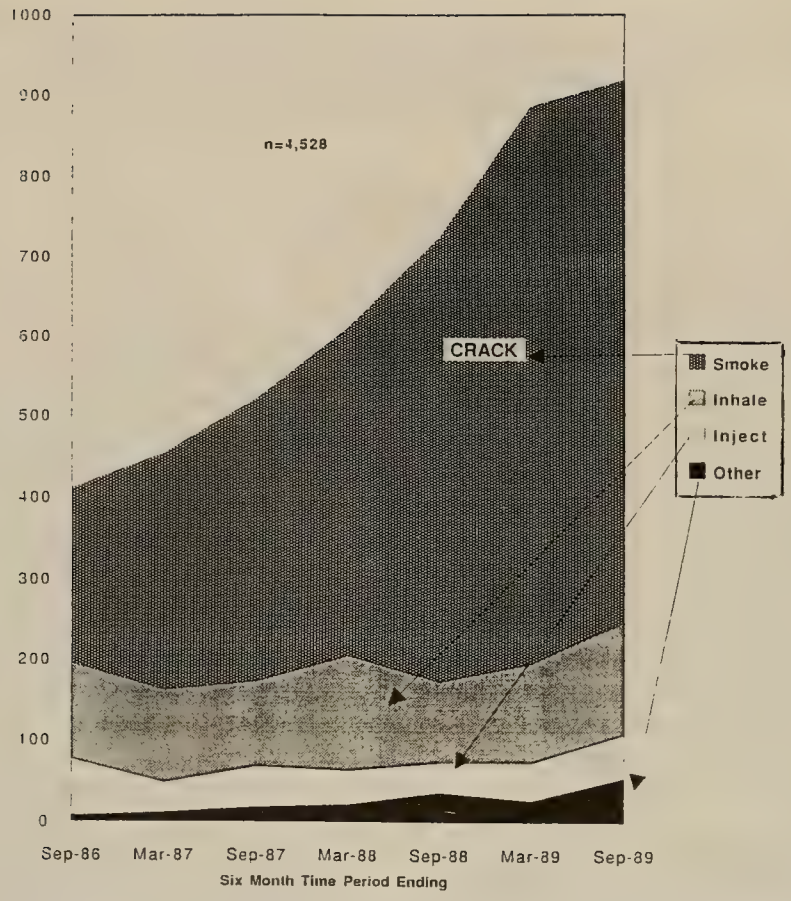

Figure 1. Primary cocaine admissions to CSAS drug treatment by route of administration, San Francisco, 1986-1989

Immunizations for International Travel

Now is a good time for physicians to remind patients that they should arrange for immunizations as soon as their travel plans are confirmed. Failure to possess certification of proper immunization can result in a person being denied entry into a country or being confined while awaiting a connecting flight.

Many people have misconceptions about immunizations for travel. First, none are required to enter or re-enter the United States. Actually, the majority of popular international vacation spots, such as England, France, Canada, Italy, and Ireland, require no immunizations of visitors. Second, smallpox vaccination is **no longer required** of travelers anywhere in the world. Third, required immunizations sometimes vary depending upon the order in which multiple countries will be visited. Fourth, the recommended preventive health measures for travelers are sometimes more important than the required ones. Nations institute vaccine requirements to protect their own citizens, not foreign tourists.

Each country's immunization requirements are set forth in the book, *Health Information for International Travel 1989,* (publication number 017-023-00184-1), published by the Centers for Disease Control (CDC). It is available from the U.S. Government Bookstore, 450 Golden Gate Avenue, Room 1023, San Francisco, CA 94102, (415) 556-6657. The current price is $5.00 per copy.

Malaria prophylaxis is advisable for travel to some tropical countries, including parts of Mexico. A variety of drugs are available for prophylaxis. Because recommended drugs and dosages will vary depending on the age and weight of the traveler and the countries to be visited, consult your local health department for recommendations.

Hepatitis A is endemic throughout most of the world. While the best preventive measures against this disease are drinking only commercially bottled beverages and

not eating any raw fruits, vegetables, fish, or shellfish, a degree of temporary immunity may be obtained from an injection of human immune globulin (IG) just prior to departure. (San Francisco Department of Public Health does not supply prophylactic IG or any other medications or biologicals for international travelers.)

Scientists who are planning trips which involve handling wild carnivores or native dogs should consult their physician about the advisability of receiving a 5 dose pre-exposure rabies prophylaxis. If bitten, a 2 dose post-exposure prophylaxis will still be required, but human rabies immune globulin (HRIG), sometimes difficult or impossible to obtain overseas, will not be necessary.

Travelers should make sure their common immunizations are up to date. An injection of **tetanus-diphtheria toxoid (Td)** within the last 10 years is a must for all adults. Persons born after 1957 should make sure they either have had **measles disease or a measles vaccination** after 1968. If traveling to a polio-endemic area, adults **without** a history of polio immunization should receive 2 doses of enhanced-potency inactivated polio vaccine (eIPV) 1 month apart, prior to departure. If an adequate history of polio vaccination exists, 1 booster dose is recommended if the primary series was completed more than 5 years prior to the anticipated trip.

Adapted from Kansas Department of Health: Immunizations for International Travel. Epistat 1989:2:9-10.

International Health Requirements and Recommendations Information Hotline

The CDC has instituted a pilot program for foreign travel health information. Requirements and recommendations for international travel are now available 24 **hours a day** with the use of a touchtone phone by calling: **404-332-4559.**

Callers can select any of the information messages by following the instructions which are given. The information will be updated as needed.

In addition, travelers can contact their local health department for information regarding required or advised immunizations and other health-related recommendations.

PATIENTS WITH ALZHEIMER'S DISEASE AND RELATED DISORDERS MUST BE REPORTED!

Recent changes in California law require all physicians and health care providers to report patients with dementing illness to their local health department.

Reporting Alzheimer's Disease and Related Disorders: Guidelines for Physicians, developed by the California Department of Health Services, summarizes why and how the reports are to be made. To order this document or to obtain more information please call:

Alzheimer's Disease Program at (916) 327-4662 or write to the following address:

Alzheimer's Disease
California Department of Health Services
1800 Third Street, Suite 100
P.O. Box 942732
Sacramento, CA 94234-7320

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING June 30, 1990

DISEASE	CASES REPORTED WEEKS 23 THROUGH 26			TOTAL CASES REPORTED TO DATE		
	1988	1989	1990	1988	1989	1990
AIDS	117	157	115	854	1009	1096
AMEBIASIS	25	41	32	184	146	150
CAMPYLOBACTERIOSIS	44	59	87	263	307	344
CHANCROID		3	2		3	25
CHLAMYDIAL INFECTIONS			232			1373
GIARDIASIS	34	52	31	187	187	162
GONORRHEA	487	399	313	3371	2653	2156
H. INFLUENZAE INVASIVE DISEASE	1	6	2	2	21	14
HEPATITIS Type A	28	15	20	149	128	129
HEPATITIS Type B	7	5	5	48	47	78
HEPATITIS Non A - Non B	2	2	–	13	4	2
LISTERIOSIS	–	4	–	7	7	5
LYME DISEASE	–			3		
MALARIA	–	3	1	9	26	11
MEASLES	–	1	1	5	2	32
MENINGOCOCCAL INFECTIONS	–	1	1	2	10	3
PELVIC INFLAMMATORY DISEASE			25			193
PERTUSSIS	–	–	1	1	2	1
RUBELLA		–	–		1	1
SALMONELLOSIS	14	15	10	107	95	73
SHIGELLOSIS	34	25	20	195	205	142
SYPHILIS, Total	69	56	59	316	330	442
SYPHILIS, Primary & Secondary	30	22	33	123	115	192
TUBERCULOSIS	22	23	27	174	139	171
TYPHOID FEVER	–	1	–	10	6	2
TOTAL DEATHS REPORTED THIS PERIOD	641	613		4669	4408	
Deaths from pneumonia and influenza	29	18		209	160	
Medical Examiner cases		120			839	
Drug-related cases		14			131	
Cocaine-related cases		6			51	

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Vol. 6, No. 9 September 1990

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The San Francisco City Clinic Cohort Study: Progression to HIV disease and the need for intervention

Description of Cohort. The San Francisco City Clinic Cohort (SFCCC) consists of 6,705 homosexual and bisexual men who were originally recruited from 1978 to 1980 from the San Francisco City Clinic, the municipal sexually transmitted disease clinic, for studies of the incidence and prevalence of hepatitis B, and ultimately of the efficacy of the hepatitis B vaccine (1). As part of these studies, serum samples were collected from all cohort members and tested for serologic markers of hepatitis B infection. From this cohort, a sample of 359 hepatitis B-seronegative men was recruited into hepatitis B vaccine trials which are still underway. All unused serum samples, both from the initial screening and from the vaccine trial were frozen and stored.

In October 1983, epidemiological studies of the acquired immunodeficiency syndrome (AIDS) were initiated in this cohort (2). Each cohort member who agreed to participate in AIDS follow-up studies was interviewed regarding behavioral risk factors for human immunodeficiency virus (HIV) infection and AIDS, examined by a physician, had a medical history taken, and was tested for HIV antibodies. With the participant's consent, all stored serum samples from the earlier hepatitis studies were also tested for HIV antibodies. In 1986, complete blood counts and T-cell subsets were routinely added to these investigations. To determine the incidence of AIDS for the entire cohort, we conducted crossmatching with San Francisco and national AIDS surveillance data.

Clinical and laboratory outcome. We identified 445 men with well characterized dates of HIV seroconversion who have either been clinically evaluated by us in the last two years or who have developed AIDS (3). The clinical outcome in these 445 men is grouped by estimated year of HIV seroconversion (Figure 1). Participants were classified as having AIDS, AIDS-related complex (ARC), or asymptomatic HIV infection. We defined AIDS as the presence of a disease meeting the revised Centers for Disease Control (CDC) AIDS case definition (4). We defined ARC as presence or history following seroconversion of oral candidiasis, hairy leukoplakia, prolonged fever, night sweats, or diarrhea of unknown etiology; or involuntary weight loss of more than 10 pounds, not otherwise meeting the CDC case definition for AIDS. Participants who did not have AIDS or ARC were defined as asymptomatic whether or not they had generalized lymphadenopathy.

The proportion of men with symptomatic HIV infection increases with duration of HIV seropositivity. Among the 345 men estimated to have seroconverted in 1977 to 1980, 61% have been diagnosed with AIDS, 18% have ARC, and 21% remain asymptomatic. Among the 72 men estimated to have seroconverted in 1981 to 1983, 40% have been diagnosed with AIDS, 24% have ARC, and 36% remain asymptomatic. Among the 17 men estimated to have seroconverted in 1984 to 1986, 29% have been diagnosed with AIDS, 24% have ARC, and 47% remain asymptomatic. Among the 11 men who seroconverted since 1986, 9% have ARC and 91% are asymptomatic. Analysis of data from this study also shows that the proportion of men with either AIDS or low T-helper cell counts increases with duration of HIV seropositivity.

To further define the relationship between duration of infection and disease progression, we included data from 489 men with well characterized dates of seroconversion in a Kaplan-Meier curve of the cumulative

proportion of men with AIDS by duration of infection (Figure 2). Of these 489 men, 226 (46%) have been diagnosed with AIDS. Based on this analysis, we estimate that 1% of infected men will develop AIDS within 2 years of seroconversion, 8% within 4 years, 20% within 6 years, 36% within 8 years, 49% within 10 years, and 53% within 11.1 years, with a 95% confidence interval of 48% to 58%.

To evaluate whether progression time to AIDS has been impacted by the use of antiviral and other therapies in the last few years, we fitted a Weibull model to the Kaplan-Meier progression curve through September of 1987. The actual curve and the modeled curve, extended out to 11.1 years, are quite similar until after 9 years when the modeled curve begins to rise to above the actual curve (Figure 3).

Reported by the Research Branch, AIDS Office, San Francisco Department of Public Health.

Editorial note

San Francisco is one of the cities most affected by the AIDS epidemic, with an estimated 28,000 HIV infected homosexual and bisexual men and 1,800 HIV infected heterosexual intravenous drug users in 1990 (5). In San Francisco, homosexual and bisexual men represent the great majority of those diagnosed with AIDS as well as those infected with HIV (5,6). Although several studies of gay men have found a seroprevalence of approximately 50% (7,8), new infections in this population over the last five years have decreased dramatically, consistent with changes in high risk sexual behaviors (7,9,10). Additionally, city-wide data from San Francisco show the incidence of sexually transmitted diseases, such as gonorrhea proctitis, also declining in the last six to seven years (11).

In general, studies on the natural history of HIV infection and progression to AIDS from other cohorts of homosexual and bisexual men, where date of seroconversion of HIV is known, show similar results as the SFCCC, with progression rates increasing with duration of infection (12,13). Epidemiological studies also suggest that certain clinical manifestations or laboratory parameters are associated with an increased risk of developing AIDS. Clinical manifestations include constitutional symptoms (such as unexplained fevers or drenching night sweats), hairy leukoplakia, and thrush (14-17), while laboratory markers include low T-helper cell counts or a low precentage of T-helper cells (14,18-23), elevated beta-2 microglobulin levels (14), presence of p24 antigen (14,24,25), and elevated serum neopterin (14,26).

Several recent clinical trials indicate that the use of the antiviral drug zidovudine (AZT) may decrease the likelihood of progression to AIDS or severe ARC in HIV infected subjects with a T-helper cell count less than 500 cells/mm^3 who are either asymptomatic (27) or who have only mild symptoms of HIV disease (28). Based on this data, zidovudine is currently approved by the Food and Drug Administration (FDA) for use in HIV-infected people with T-helper cell counts of 500 cells/mm^3 or less (29). Current U.S. Public Health Service guidelines also include recommendations that prophylaxis against Pneumocystis carinii pneumonia (PCP) (for example, with aerosolized pentamidine or oral trimethoprim-sulfamethoxazole) be initiated for HIV-infected subjects whose T-helper cell count is less than 200 cells/mm^3 (30).

A comparison of observed and expected progression-to-AIDS curves from the SFCCC suggests that the actual progression rates are slightly less than the expected rates. Whether this difference reflects an effect of medical therapies, a lag in AIDS case reporting, or an effect of other behavioral or biologic cofactors is unclear. Whether all HIV-infected people will eventually develop AIDS is unknown. What is clear, however, is that in the absence of effective therapies, the likelihood of developing clinical or immunologic manifestations of HIV infection increases over time; the great majority of subjects in this study with long-term HIV infection have developed AIDS, ARC and/or low T-helper cell counts.

In light of current evidence and recommendations concerning the possible benefits of early intervention, and the

increased likelihood of developing AIDS or ARC over time, individuals who may be at risk for HIV infection should strongly consider being tested for HIV antibodies. Individuals who are identified as seropositive for HIV should seek regular medical evaluation and, in coordination with their health care provider, monitor their clinical and immunologic status. Based on this evaluation, and when appropriate, such individuals should also consider the initiation of antiviral or prophylactic therapies.

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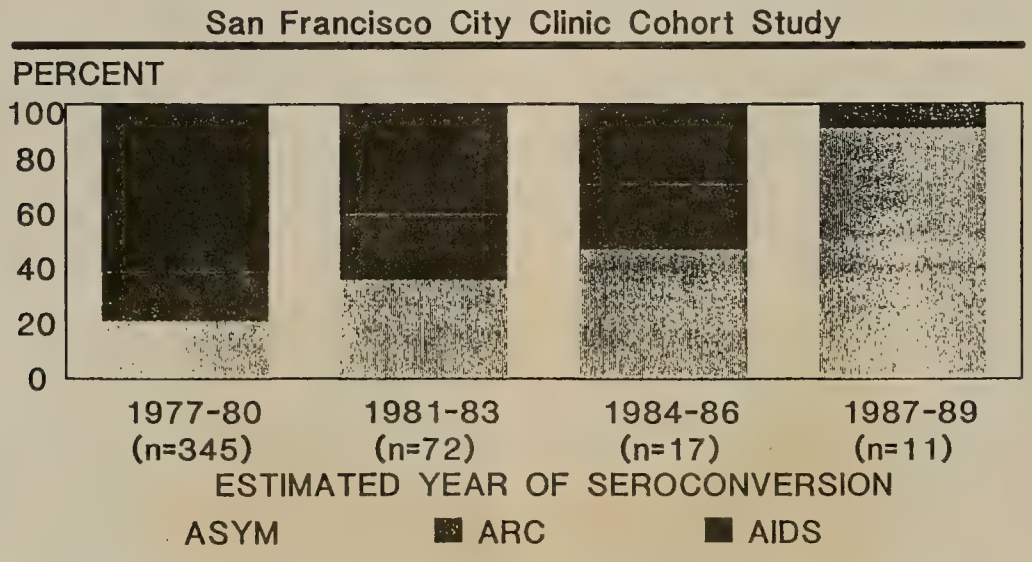

Figure 1. Clinical outcome by estimated year of seroconversion

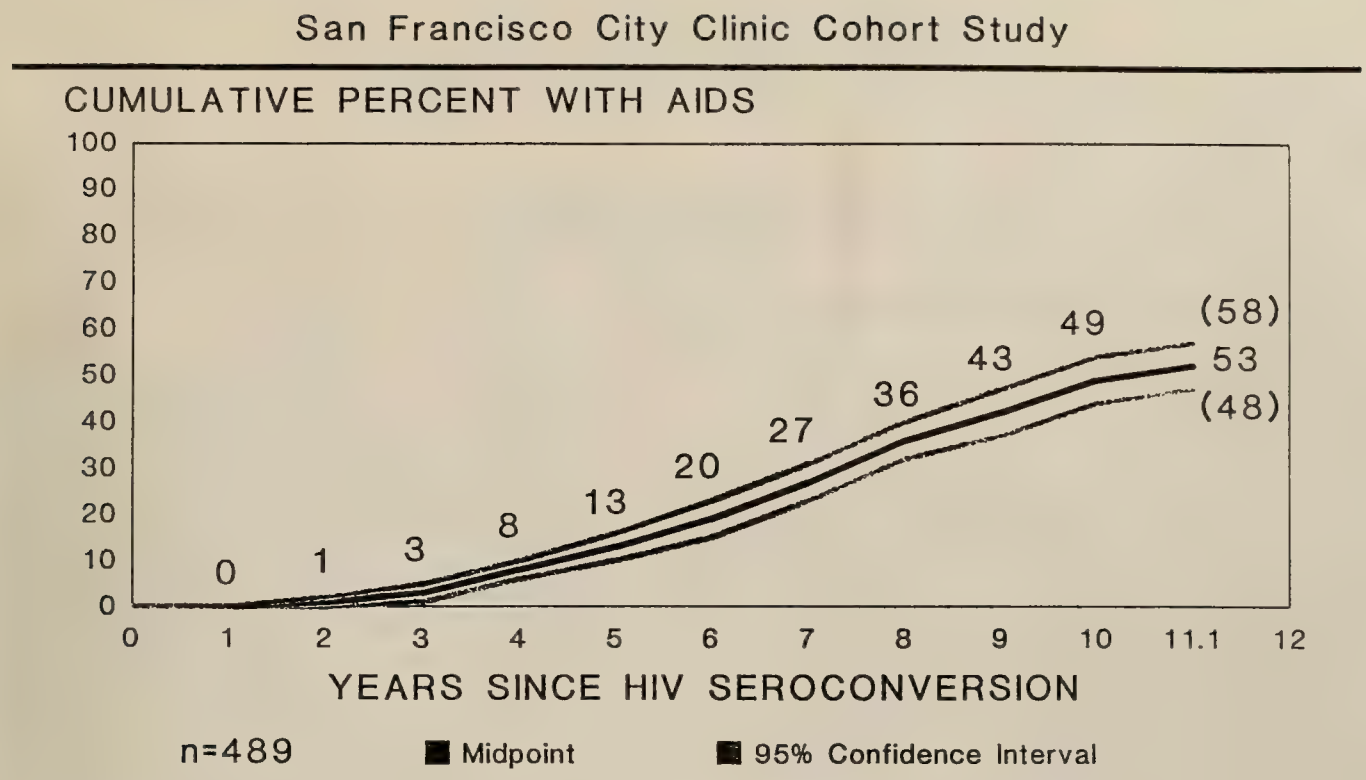

Figure 2. Cumulative risk of AIDS by time since HIV seroconversion

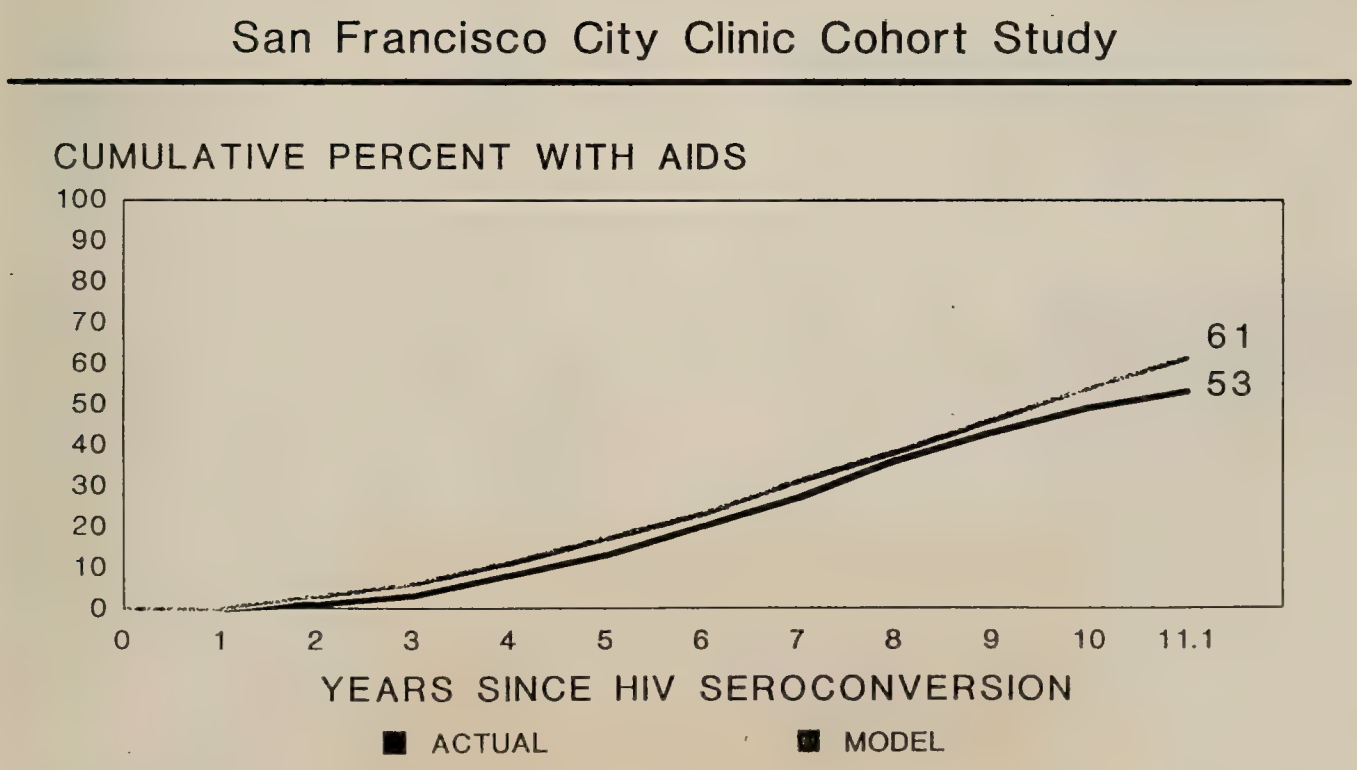

Figure 3. Modeled and actual progression time to AIDS

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING July 28, 1990

DISEASE	CASES REPORTED WEEKS 27 THROUGH 30			TOTAL CASES REPORTED TO DATE		
	1988	1989	1990	1988	1989	1990
AIDS	106	126	148	960	1135	1244
AMEBIASIS	21	31	30	205	177	180
CAMPYLOBACTERIOSIS	43	58	76	306	365	420
CHANCROID		3	3		6	28
CHLAMYDIAL INFECTIONS			216			1589
GIARDIASIS	30	38	31	217	225	193
GONORRHEA	367	351	381	3738	3004	2537
H. INFLUENZAE INVASIVE DISEASE	–	2	2	2	23	16
HEPATITIS Type A	15	22	29	164	150	158
HEPATITIS Type B	7	7	15	55	54	93
HEPATITIS Non A - Non B	–	1	4	13	5	6
LISTERIOSIS	1	1	2	8	8	7
LYME DISEASE	–	1		3	1	
MALARIA	1	4	4	10	30	15
MEASLES	–	4	1	5	6	33
MENINGOCOCCAL INFECTIONS	–	2	2	2	12	5
PELVIC INFLAMMATORY DISEASE			26			219
PERTUSSIS	–	–	–	1	2	1
RUBELLA		–	–		1	1
SALMONELLOSIS	12	21	24	119	116	97
SHIGELLOSIS	26	34	40	221	239	182
SYPHILIS, Total	24	49	85	340	379	527
SYPHILIS, Primary & Secondary	7	15	31	130	130	223
TUBERCULOSIS	24	24	32	198	163	203
TYPHOID FEVER	–	–	–	10	6	2
TOTAL DEATHS REPORTED THIS PERIOD	607	605		5276	5013	
Deaths from pneumonia and influenza	17	10		226	170	
Medical Examiner cases		110			949	
Drug-related cases		21			152	
Cocaine-related cases		9			60	

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Department of Public Health • Bureau of Epidemiology and Disease Control

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

Vol. 6, No. 10 October 1990

IN THIS ISSUE: *Occupational HIV infection • Influenza Vaccine, 1990-1991 • EMS Hotline*

Update on occupational HIV infection among health care workers

Protecting health care personnel from hazardous exposures to HIV and other bloodborne pathogens is a conspicuous public health issue. Data from new and ongoing epidemiologic investigations assessing transmission risks and the efficacy of prevention strategies help lend perspective to this highly charged issue and hopefully can be used to formulate rational approaches to enhancing safety in the health care environment. Here we provide an update on occupational HIV infection and surveillance data from San Francisco General Hospital (SFGH).

Case reports of occupational infection: documented seroconversion. As of June 1990, 27 case reports of health care workers (HCW) occupationally infected have been described in the medical literature (1,2,3). Occupational infection was documented by demonstrating acquisition of HIV temporally associated with a discrete exposure to HIV. Needlestick injuries or similar percutaneous exposures caused infection in 22/27 cases. Mucosal or non-intact skin contamination with HIV caused infection in the remaining 5 cases. No other routes of infection have been associated with occupational infection in any setting. Review of the details of the percutaneous exposure suggests that intramuscular exposures, actual injections of blood, and injuries caused by large-bore hollow needles, particularly when the source patient is severely ill (and more viremic), are factors which may be associated with an increased risk of transmission. Twenty-five of the 27 cases involved exposure to blood or bloody body fluids. In two cases, infection occurred during exposure to research laboratory specimens containing highly concentrated HIV. Although these 27 cases provided reliable information about the occurrence of HIV transmission and are unlikely to be confounded by non-occupational risks for HIV, they do not provide a denominator to calculate the incidence or prevalence of occupational infection. Furthermore, because reporting of occupational HIV infection is not mandatory and obvious disincentives may discourage some HCW from revealing their infection, risk estimates from these data may underestimate the true risk of transmission.

Case reports of prevalent infections among health care workers. In addition to the 27 reports described above, 9 accounts of possible occupational HIV infection in HCW lacking community-based risk behaviors have been published (1). Four of these HCW had antecedent accidental exposures, but documentation of seroconversion was not possible either because exposure occurred prior to the availability of HIV testing, or because the HCW did not have a baseline post-exposure test. The remaining 5 HCW did not recall an antecedent exposure to HIV. In addition, the Centers for Disease Control (CDC) is currently investigating 30 other HCW reported to state or local health departments who may prove to be prevalently infected HCW lacking non-occupational risks (2).

Magnitude of risk from discrete exposure events. Prospective cohort studies designed to estimate the magnitude of risk from discrete exposure events allow measurement of the incidence of HIV among HCW sustaining various types of exposures. To date, 6 seroconverting HCW (included above) have been detected in 14 such studies prospectively testing 1,962 HCW after 2,008 exposures (5) (Table 1).

The magnitude of risk from a discrete percutaneous exposure to HIV calculated from these estimates is .31%; (95% C.I. = 0 - .8%). Similarly, cumulative data from 12 studies evaluating exposure of non-intact skin or mucous membranes to HIV infected material, suggest that the risk of infection following this type of exposure is considerably less than that associated with percutaneous needlesticks (0 seroconversion/1,051 exposures; 95% C.I. = 0 - .3%).

Cumulative professional risk. The cumulative risk to HCW has not been defined, primarily because the AIDS epidemic is a relatively recent phenomenon. However, cross-sectional seroprevalence studies offer some encouraging information. Mandatory HIV testing of 545,114 U.S. Army Reserve personnel including more than 45,000 HCW employed in civilian occupations, found that the HIV prevalence was .25% in HCW compared to .15% in non-HCW (5). All 2,397 medical and surgical physicians and dentists were negative; the increased risk among HCW was entirely accounted for by infections among never-married single male nurses, technologists, and individuals involved in other unspecified occupations.

Surveillance of AIDS cases indicates that the employment classification "health care worker" is more frequent among cases with "no identified risk" than in cases where risk behavior is documented. To date, 66 HCW with AIDS lacking established risk behaviors have been investigated by the CDC (3). While the epidemiologic description of this group of patients does not indicate that occupational transmission is the only mode of transmission accounting for their infections, it cannot be ruled out with certainty in any given individual. To date, there are no cases of AIDS among HCW in San Francisco classified as "no identified risk."

Surveillance of accidental exposures at San Francisco General Hospital. The prevalence of HIV infection among patients at SFGH is among the highest in the U.S. Exposures to blood or other body fluids sustained by HCW at this institution are surveyed as part of the post-exposure management program to facilitate implementation of risk reduction interventions and estimate risks from HIV exposures. In June 1989, a needlestick hotline staffed by expert clinicians 24 hours a day, 7 days a week, was implemented to provide immediate counseling and triage advice to exposed HCW. In the first 12 months of service, 293 exposures were reported, (169% of the number reported in the previous year) (Figure 1). Exposures were classified on the basis of severity as follows: massive exposures (transfusions, large volume injections; n = 0); definite parenteral exposures (intramuscular needlesticks, deep punctures or lacerations; n = 11); probable parenteral exposures (subcutaneous punctures, mucosal splashes of blood/bloody body fluids; n = 201); doubtful parenteral (mucocutaneous contact with non-bloody body fluids, percutaneous exposure to non-bloody body fluids; n = 39); non-parenteral exposures (skin contacts; n = 6); unspecified (n = 35); (Figure 2).

One hundred eighty-two of the reported exposures were needlesticks, 35 were lacerations, 37 were mucosal splashes, 9 were contaminated skin lesions, 7 were contaminated normal skin, and the description of the remainder was incomplete. Of the needlestick injuries, 84 involved hollow needles used for phlebotomy or intramuscular (IM) injection, 26 were suture needles, 15 were intravenous (IV) catheter needles, 11 were vacutainer needles, 10 were butterflies, 9 were heparin locks, and the remainder included miscellaneous or unspecified devices (Figure 3). Needlestick injuries were caused by improper disposal (15%), recapping (11%), disposal container mishaps (11%), or occurred during use of heparin locks (4%), catheters (4%), or while filling blood tubes (3%), performing IM injections (3%), or by miscellaneous mechanisms (48%).

In 17% of the reported exposures, HIV infection was confirmed in the source patient, and in another 9%, the source patient was at high risk but not available for testing. Twenty-nine health care workers elected to begin post-exposure chemoprophylaxis with zidovudine. No HCW was found to seroconvert to HIV in this interval, regardless of whether or not zidovudine was used.

Conclusion. HCW in San Francisco face a finite risk of exposure to HIV-infected fluids and subsequent seroconversion. Fortunately, the prospective data evaluating HCW regularly and intensively exposed to infected patients, and epidemiologic data from studies at SFGH and elsewhere, suggest that the cumulative professional risk to HCW is not large. Increased efforts to promote safer work practices when handling and disposing needles are clearly warranted. As the prevalence of AIDS increases, compliance with infection control precautions, the development and routine use of safer needles and other equipment, as well as rational, creative efforts by HCW, will be necessary to reduce the hazard of occupational HIV Infection.

Reported by JL Gerberding and ST Mast, Department of Medicine, University of California San Francisco, San Francisco General Hospital.

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Table 1. Summary of prospective studies following health care workers (HCW) experiencing occupational exposure to HIV-infected body fluids (5)

	Type of exposure sustained by HCW	
	Percutaneous	**Mucocutaneous**
Number of studies	14	12
Number of exposed HCW	1962	670
Number of percutaneous exposures	2008	1051
Number of seroconversions	6	0
Seroconversion rate per exposure	0.31%	0.0%

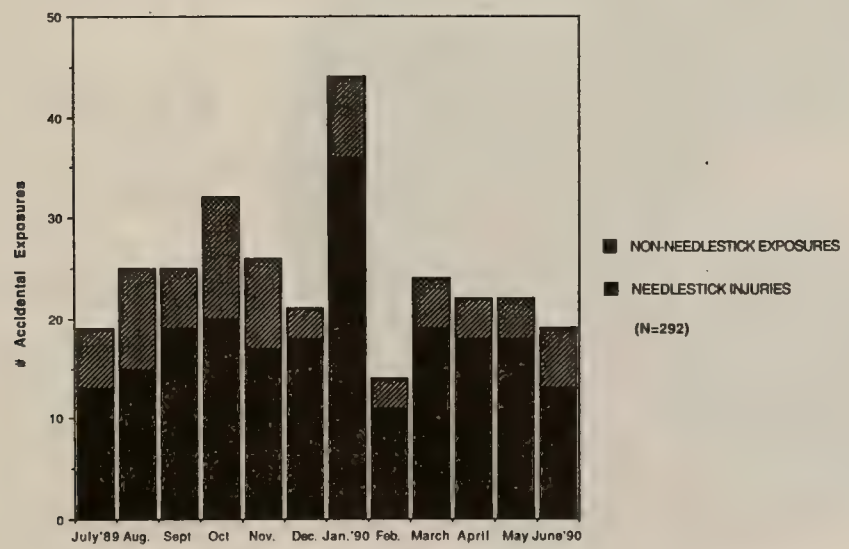

Figure 1. Reported accidental exposures at SFGH by month, July 1989 - June 1990

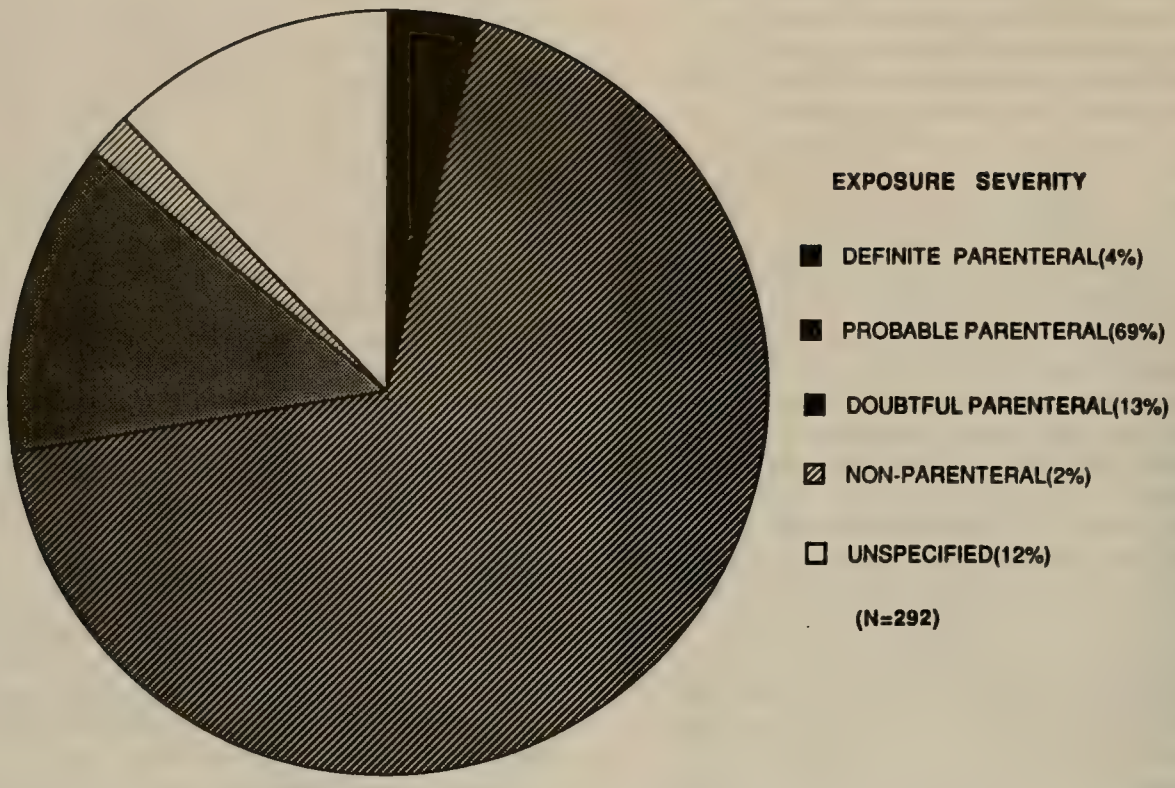

Figure 2. Severity profiles of reported exposures at SFGH, July 1989 - June 1990

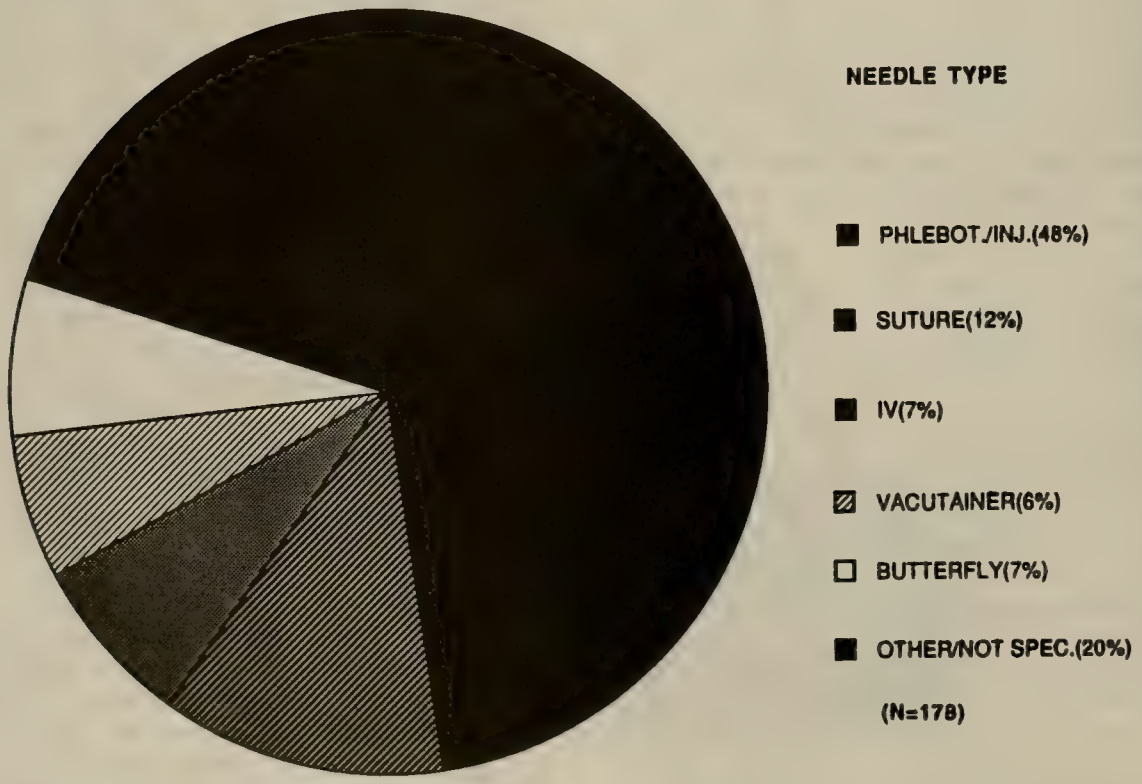

Figure 3. Needle types involved in reported needlestick injuries at SFGH, July 1989 - June 1990

Guidelines for 1990-1991 Influenza Vaccine Use*

Vaccination of high-risk persons each year before the influenza season is the single most important measure for reducing the impact of influenza. The target groups for immunization include:

A. Groups at increased risk of influenza-related complications.

1. Adults and children with chronic disorders of the cardiovascular or pulmonary systems requiring regular medical followup or hospitalization during the preceding year.
2. Residents of nursing homes and other chronic care facilities housing patients of any age with chronic medical conditions.
3. Persons ≥55 years of age.
4. Adults and children who have required regular medical followup or hospitalization during the preceding year because of chronic metabolic diseases including diabetes mellitus, renal dysfunction, anemia, or immunosuppression, including symptomatic HIV infection.
5. Children and teenagers (six months through 18 years of age) who are receiving long-term aspirin therapy and, therefore, may be at risk of developing Reye syndrome following influenza infection.

B. Groups potentially capable of transmitting influenza to high-risk persons.

1. Physicians, nurses, and other personnel in both hospital and out-patient settings who have extensive contact with high-risk patients in all age groups, including infants.
2. Providers of care to high-risk persons in the home setting (e.g., visiting nurses, volunteer workers).
3. Household members (including children) of high risk groups.

Immunodeficient persons. Because influenza vaccine contains only non-infectious viruses, it cannot cause influenza. However, the ability of immunodeficient persons to respond by developing antibodies is unknown and probably varies from individual to individual. These people can be protected in some measure by immunization of those around them, including caregivers.

San Francisco comment:

The kickoff for the annual flu campaign will be held at the Aquatic Park Branch of the San Francisco Senior Center on **November 1, 1990.** Immunizations will be available at the five Department of Public Health District Health Centers on the mornings of **November 6, 8, 13, 15** and at the Richmond District Neighborhood Center, 741 - 30th Avenue on **November 7.** Final clinics will be at Health Center #5 on Saturday, **November 17** and at 50 Ivy Street **November 19** through **December 28.** The Bureau of Epidemiology and Disease Control will make vaccine available to clinics and physicians.

The 1990-91 vaccine contains three strains: A/Taiwan/1/86-like (H1N1), A/Shanghai/16/89-like (H3N2), and B/Yamagata/16/88-like antigens. Influenza season usually begins in late November or early December. Determination of outbreaks of influenza depends on rapid notification by providers. **Any unusual incidence of respiratory infection should be reported immediately by telephone to the Bureau of Epidemiology and Disease Control at 554-2830.** Arrangements will be made for the collection of appropriate specimens, which will facilitate efforts to document the presence of influenza in the area.

**Adapted from MMWR 1990;39:No.RR-7.*

HOTLINE FOR EOSINOPHILIA MYALGIA SYNDROME (EMS)
1-800-EMS-2829

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING September 1, 1990

DISEASE	CASES REPORTED WEEKS 31 THROUGH 35			TOTAL CASES REPORTED TO DATE		
	1988	1989	1990	1988	1989	1990
AIDS	135	192	217	1095	1327	1461
AMEBIASIS	46	39	36	251	216	216
CAMPYLOBACTERIOSIS	62	80	111	368	445	531
CHANCROID		1	10		7	38
CHLAMYDIAL INFECTIONS			296			1885
GIARDIASIS	44	48	34	261	273	227
GONORRHEA	687	408	421	4425	3412	2958
H. INFLUENZAE INVASIVE DISEASE	-	-	4	3	23	20
HEPATITIS Type A	33	23	26	197	173	184
HEPATITIS Type B	5	12	10	60	66	103
HEPATITIS Non A - Non B	-	2	-	13	7	6
LISTERIOSIS	-	2	2	8	10	9
LYME DISEASE	6	3		9	4	
MALARIA	2	3	4	12	33	19
MEASLES	-	3	3	5	9	36
MENINGOCOCCAL INFECTIONS	-	1	-	2	13	5
PELVIC INFLAMMATORY DISEASE			25			244
PERTUSSIS	1	1	3	2	3	3
RUBELLA		-	-		1	1
SALMONELLOSIS	30	25	28	149	141	125
SHIGELLOSIS	64	52	50	285	291	232
SYPHILIS, Total	46	64	101	386	443	628
SYPHILIS, Primary & Secondary	16	21	35	146	151	258
TUBERCULOSIS	22	29	31	220	192	234
TYPHOID FEVER	2	1	-	12	7	2
TOTAL DEATHS REPORTED THIS PERIOD		629	768		5905	5781
Deaths from pneumonia and influenza		23	22		249	192
Medical Examiner cases			149			1098
Drug-related cases			18			170
Cocaine-related cases			7			67

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Department of Public Health • Bureau of Epidemiology and Disease Control

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

Vol. 6, No. 11 November 1990

IN THIS ISSUE: *Update: Active Laboratory-Based Surveillance • Flu in a Patient with AIDS • Kwell® Resistance • Measles Reminder*

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Update: Active Laboratory-Based Surveillance and Related Case-Control Studies

Since October 1988, the San Francisco Department of Public Health, together with the health departments of Alameda and Contra Costa counties, has been participating in a laboratory-based, active surveillance project funded by the Centers for Disease Control (CDC). With substantial assistance from clinical microbiology laboratories in the three counties, we have been attempting to identify all laboratory-confirmed invasive infections (i.e., those in which the organism is recovered from a normally sterile site) due to *Haemophilus influenzae, Neisseria meningitidis, Listeria monocytogenes,* and group B streptococcus. Beginning in January 1990, invasive group A streptococcal infections were added to this surveillance project. In addition, also since October 1988, we have been maintaining active laboratory-based surveillance for campylobacter and salmonella infections in men 20-59 years of age. These surveillance activities have been established so as to permit calculation of incidence rates for these seven infections; to identify patients eligible for enrollment in three case-control studies (of *H. influenzae* B vaccine efficacy; of the dietary sources of *L. monocytogenes* infections; and of risk factors for campylobacter and salmonella infections in men with AIDS); to assess the descriptive epidemiology of patients at risk of invasive group A streptococcal infections, and to allow the characterization of prevalent bacterial strains regarding serogroup, serotype, antimicrobial resistance, and other markers. We report here, the interim results of these activities:

N. meningitidis. During the 23 month time period for which surveillance is complete, 81 cases of invasive meningococcal disease occurred in the three participating counties. Seven (9%) of the cases resulted in death. Of the 81 cases, 57 occurred during the first 12 months of surveillance, yielding an estimated annual incidence rate in the three counties of 2 per 100,000, compared with a rate of only 0.9 per 100,000 during the more recent 11 month interval. Of the 58 cases in which serogroup information is available at this time, 33 (57%) were due to serogroup C, 21 (36%) to serogroup B, 3 (5%) to serogroup W135, and 1 (2%) to serogroup A. As expected, the highest rate of meningococcal infection has been seen in children less than one year of age, who accounted for 20 (25%) of the 81 cases.

H. influenzae. To date, 191 cases of invasive disease due to *H. influenzae* have been detected in the three counties. Of these, 25 (13%) have resulted in death. As expected, those at highest risk of invasive disease due to *H. influenzae* B have been children less than one year of age, and cases have occurred disproportionately during the winter months. Of those eligible for enrollment in the CDC multi-site case-control study of vaccine efficacy,

75% have been enrolled. Results from this study are not yet available.

L. monocytogenes. Over the prior 23 months, 62 cases of listeriosis (infection with *L. monocytogenes*) have been detected, of which 15 (24%) were fatal. The overall incidence of listeriosis in the three counties during this time interval has been 1.1/100,000. However, the incidence rate in San Francisco (2/100,000) has been substantially higher than that in Alameda and Contra Costa counties (.8/100,000). Overall, 36 (58%) of the 62 cases were in men and 26 (42%) were in women. Of the 26 cases in women, 19 were pregnancy-related, while 14 of the 36 cases in men occurred in patients with AIDS. The remaining patients with listeriosis have had a variety of underlying illnesses, including cancer at various sites, diabetes mellitus, and chronic obstructive pulmonary disease. Five of the 19 infections in pregnant women resulted in an abortion, stillbirth, or neonatal death. Of the listeriosis cases, almost 80% have been enrolled in the CDC's multi-site case-control study of dietary sources of infections. Results of this study are not available at this time.

Group B Streptococcal infections. To date, 193 cases of invasive group B streptococcal infection have been recorded, of which 20 (10%) resulted in death. As expected, a substantial proportion of the cases occurred in children less than one year of age, most of whom were infected at the time of delivery. Plans are currently being developed for a multi-site study of risk factors for pregnancy-related group B streptococcal infection, for which selected patients in the San Francisco Bay Area would be eligible for enrollment in the future.

Group A Streptococcal infection. Because reporting of invasive group A streptococcal infections only began earlier this year, a more complete picture of the epidemiology of these infections can be seen from the results of audits of laboratory records for 1989. Audits of all hospital clinical microbiology laboratories showed that 153 cases of invasive group A streptococcal infection occurred in the three Bay Area counties in 1989. Interestingly, the estimated incidence of such infections was substantially higher in San Francisco (10/100,000) than in Alameda or Contra Costa (4.6/100,000 and 2.4/100,000 respectively). Based on cases reported for the first eight months of 1990 (n = 103), it appears that similar trends will be observed this year. Further information concerning age distribution and underlying conditions is not yet available.

Salmonella and Campylobacter infections. During the previous 23 months, 992 campylobacter infections and 262 salmonella infections have been detected in the three Bay Area counties in men 20-59 years of age. Of these, 16% of the campylobacter infections and 26% of the salmonella infections occurred in men with AIDS or symptomatic human immunodeficiency virus (HIV) infections. Because surveillance activities are primarily targeted at hospital-based clinical microbiology laboratories, it is likely that AIDS patients are somewhat over-represented in this data set. Nevertheless, based on the results in 1989, the incidence rate of documented salmonella infection among men with AIDS in San Francisco is estimated to be at least 1,312/100,000, compared with a rate of 30/100,000 among the general population. The rate of documented campylobacter infections among men with AIDS in San Francisco is estimated to be at least 2,000/100,000. Thus at least 2-3% of men with AIDS in San Francisco contract life-threatening infections with salmonella or campylobacter each year. The risk factors responsible for these high rates of infection are being explored in the ongoing case-control study, results of which are not yet available.

Summary

The active surveillance project has been and continues to be a valuable source of information about the epidemiology of the infections under study. While the study of salmonella and campylobacter infections is scheduled to end in mid-1991, active, laboratory-based surveillance for the other infections is expected to continue into 1992. It is hoped that the high level of interest and support from participating clinical microbiology laboratories, infection control nurses, physicians, and others, which has been instrumental in making these activities possible, will continue. If you have any questions or comments about these studies, please call Dr. Frances Taylor (554-2833) or Dr. Arthur Reingold (642-0327).

Reported by Arthur Reingold, M.D., Professor of Epidemiology, School of Public Health, University of California Berkeley.

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Flu Update

The first California influenza isolate of the 1990-91 season is from a San Francisco AIDS patient. This points out the importance of immunizing health care providers who care for patients with AIDS and possibly immunizing patients themselves.

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Kwell® Resistance and Toxicity

The State of California, Department of Health Services, Vector Control Unit, has issued a recommendation that lindane containing shampoos (Kwell® and others) no longer be used as a treatment for head lice due to resistance which results in inappropriate repeated application and toxicity.

Permethin (Nix®, over-the-counter treatment) is suggested as a substitute. Nix® is covered by Medi-Cal and apparently is also effective against nits.

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Measles Vaccine Reminder

It is once again the season when we can expect measles to reappear. In counties where major outbreaks have occurred, physicians' offices and hospitals have contributed to the problem through susceptible staff. Local hospitals have been quite successful in measles immunization. This is a reminder for private physician's offices to check on the immunization status of staff. Remember that 50% of San Francisco cases last year were patients older than 18, or adults, so that those who do not provide care to children must nevertheless be concerned.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING September 29, 1990

DISEASE	CASES REPORTED WEEKS 36 THROUGH 39			TOTAL CASES REPORTED TO DATE		
	1988	1989	1990	1988	1989	1990
AIDS	130	154	125	1225	1481	1586
AMEBIASIS	40	20	24	291	236	240
CAMPYLOBACTERIOSIS	34	71	69	402	516	600
CHANCROID	1	4	1		11	39
CHLAMYDIAL INFECTIONS			204			2089
GIARDIASIS	35	38	32	296	311	259
GONORRHEA	464	291	264	4889	3703	3222
H. INFLUENZAE INVASIVE DISEASE	1	–	1	4	23	21
HEPATITIS Type A	15	23	16	212	196	200
HEPATITIS Type B	4	–	3	64	66	106
HEPATITIS Non A - Non B	–	–	–	13	7	6
LISTERIOSIS	1	1	–	9	11	9
LYME DISEASE	1	2	1	10	6	1
MALARIA	2	2	1	14	35	20
MEASLES	–	–	1	5	9	37
MENINGOCOCCAL INFECTIONS	–	–	1	2	13	6
PELVIC INFLAMMATORY DISEASE			13			257
PERTUSSIS	–	–	–	2	3	3
RUBELLA		–	–		1	1
SALMONELLOSIS	19	21	21	168	162	146
SHIGELLOSIS	36	31	30	321	322	262
SYPHILIS, Total	49	46	83	435	489	711
SYPHILIS, Primary & Secondary	23	20	29	169	171	287
TUBERCULOSIS	24	22	26	244	214	260
TYPHOID FEVER	–	–	–	12	7	2
TOTAL DEATHS REPORTED THIS PERIOD	603	638		6508	6419	
Deaths from pneumonia and influenza	21	17		270	209	
Medical Examiner cases		106			1204	
Drug-related cases		20			190	
Cocaine-related cases		7			74	

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

Vol. 6, No. 12 December 1990

IN THIS ISSUE: ***Ryan White Care Act, Hib immunizations***

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Ryan White Comprehensive AIDS Resources Emergency (CARE) Act of 1990
What it is, and what it means for San Francisco

The Ryan White Comprehensive AIDS Resources Emergency (CARE) Act of 1990 [P.L. 101-381] was signed into law by President Bush on August 18, 1990, after passing overwhelmingly in the House and Senate. By the time of this article's publication, the final appropriation of the nation's first comprehensive AIDS care law should be enacted. The CARE bill authorizes funding for five years, but actual dollar amounts must be determined annually through the Congressional appropriations process. The legislation is divided into four titles, which cover different federal AIDS programs. This article will focus on the funds coming directly to San Francisco (Title I) and briefly summarize the other titles.

CARE Title I, modeled after disaster relief, provides direct emergency funds to cities heavily impacted by the AIDS epidemic. The qualifying cities are those with greater than 2,000 cases of AIDS reported to the Centers for Disease Control (CDC) (or a per capita incidence of 25 AIDS cases per 100,000 population) by June 30, 1990. The sixteen qualifying cities are: Atlanta, Boston, Chicago, Dallas, Ft. Lauderdale, Jersey City, Houston, Los Angeles, Miami, Newark, New York, Philadelphia, San Diego, San Francisco, San Juan, and Washington, D.C. On the federal level, Title I funds will be administered by the Health Resources and Services Administration (HRSA) of the U.S. Public Health Service.

The expected allocation to Title I is almost $87.8 million nationally. Based on a predetermined formula, 50% of the funds will be distributed to the cities 90 days after appropriation. San Francisco will be eligible for approximately $6.5 million in this first round of allocations. After receiving this direct award, San Francisco will also be eligible to apply on a competitive basis for additional Title I funds.

In order to be eligible for these funds, cities (i.e., the Mayor) must develop a human immunodeficiency virus (HIV) Health Services Planning Council which is responsible for the planning and allocation of these grant funds. Members must consist of: health care providers, community-based and AIDS service organizations, social service providers, mental health providers, local public health agencies, hospital planning or health care planning agencies, affected communities (including individuals with HIV disease), non-elected community leaders, state government, and the lead agency of the local federally-funded AIDS Demonstration Project (the San Francisco Department of Public Health AIDS Office).

Aside from Medicare and Medicaid reimbursements, HRSA funds represent the major source of federal funding for direct AIDS care. At present, San Francisco has two demonstration project grants from HRSA, one totaling $1.8 million which is shared with Alameda, Contra Costa, San Mateo, and Marin Counties, and the second, a direct award to San Francisco totaling a half million dollars. These funds support a variety of services which form San Francisco's "continuum of care," ranging from food services to home nursing care for persons with AIDS. The current understanding is that HRSA Demonstration Project funds will remain intact. Therefore, CARE dollars will represent a threefold increase in federal funding to San Francisco to support AIDS care.

The monies under Title I are targeted for out-of-hospital care, including case management and comprehensive treatment services, and inpatient case management. The legislation promotes the "San Francisco Model" of care to decrease hospitalization and encourage appropriate levels of care for persons with HIV infection. The determination of service funding priorities will be performed by the HIV Health Services Planning Council.

CARE Title II funds are direct grants to states based on the number and prevalence of reported AIDS cases. The expected total allocation is $87.8 million nationally. These funds will continue to support the federal AIDS drug program and the HRSA AIDS Demonstration Projects. These state-administered grant funds will also be used to: establish and operate HIV care consortia, provide home and community-based services, and provide assistance to assure the continuity of health insurance coverage for individuals with HIV disease. States are required to match federal funds, beginning with a 1:5 ratio the first year, that is, one state dollar for every 5 federal dollars.

California is currently developing its plan for CARE monies. At present, it is unclear how the states will regard emergency relief cities in evaluating fund allocation. It is hoped that San Francisco will be eligible for some additional AIDS care funds through state grants. In addition, 10% of Title II funds may be used for special pilot programs in HIV/AIDS care. These funds would be allocated by the federal government through HRSA.

CARE Title III funds are for early intervention services grants. This title now subsumes the current CDC grants for HIV counseling and testing and continues their funding level of $130 million nationally. San Francisco's portion of this program is $3.2 million, and is expected to remain stable.

An additional $44.9 million nationally is expected for categorical grants for early intervention care, which will be administered by HRSA. These categorical grants are to be used for the purpose of: counseling, testing (both HIV and immune cell counts), referrals, and early intervention medical care. The funds may also be used for outreach to at-risk populations and early intervention case management. This allocation includes funding of a current program to develop early intervention care in community health clinics. San Francisco was recently awarded $485,000 for HIV early intervention programs based in the community clinics. In order to receive additional funds, San Francisco would compete for early intervention grant monies.

In summary, the Ryan White Comprehensive AIDS Resource Emergency (CARE) Act of 1990 is expected to be funded at $350 million in fiscal year 1991, over $200 million of which is for existing programs. This represents approximately $144 million in new funds for HIV/AIDS care. While the allocation amount is far less than had been originally authorized, this represents a significant increase in AIDS service funding on the federal level. It is doubtful, however, that comparable federal and state funding will be available to San Francisco in future years.

Haemophilus influenzae type b (Hib) immunizations

The Hib-conjugate vaccine HibTITER® (Lederle-Praxis) has been approved by the Federal Drug Administration for use in infants and children under age 15 months. All other Hib vaccines are still licensed only as a single dose vaccine for infants ages 15 months to 4 years.

A new immunization schedule for the administration of HibTITER® to infants has been adopted by the U.S. Public Health Service (USPHS) Immunization Practices Advisory Committee (ACIP), and can be summarized as follows:

HibTITER® Schedule

1. Young infants: 3 doses at ages 2, 4, and 6 months, with a 4th, booster dose, at age 15 months.
2. Unimmunized infants 7-11 months old: 2 doses 2 months apart, with a 3rd, booster dose, at age 15 months.
3. Unimmunized infants ages 12-14 months: one dose with a booster 2 months later (no earlier than age 15 months).
4. Unimmunized children ages 15 months – 4 years: one dose only (i.e., the same as the existing schedule for Hib vaccines).

The recommended minimum interval between doses is 2 months. If a delay occurs between doses, the series does not have to be started over. Other licensed Hib vaccines can be used as the 15-month booster dose, but only HibTITER® can be used in infants under age 15 months.

The San Francisco Department of Public Health does not currently have HibTITER® vaccine available, so we are unable to immunize infants for the time being.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING November 3, 1990

DISEASE	CASES REPORTED WEEKS 40 THROUGH 44			TOTAL CASES REPORTED TO DATE		
	1988	1989	1990	1988	1989	1990
AIDS	117	156	200	1342	1637	1786
AMEBIASIS	40	32	31	331	268	271
CAMPYLOBACTERIOSIS	58	61	74	460	577	674
CHANCROID	–	1	4	1	12	43
CHLAMYDIAL INFECTIONS			308			2397
GIARDIASIS	59	45	45	355	356	304
GONORRHEA	750	409	385	5639	4112	3607
H. INFLUENZAE INVASIVE DISEASE	–	2	2	4	25	23
HEPATITIS Type A	23	30	20	235	226	220
HEPATITIS Type B	8	4	6	72	70	112
HEPATITIS Non A - Non B	3	1	–	16	8	6
LISTERIOSIS	4	3	1	13	14	10
LYME DISEASE	–	2	–	11	8	1
MALARIA	1	2	5	15	37	25
MEASLES	–	1	–	5	10	37
MENINGOCOCCAL INFECTIONS	–	1		2	14	7
PELVIC INFLAMMATORY DISEASE			21			278
PERTUSSIS	1	4	–	3	7	3
RUBELLA		–	–		1	1
SALMONELLOSIS	35	30	31	203	192	177
SHIGELLOSIS	47	36	41	368	358	303
SYPHILIS, Total	69	45	102	504	534	813
SYPHILIS, Primary & Secondary	23	22	41	192	193	328
TUBERCULOSIS	22	23	33	267	237	293
TYPHOID FEVER	3	–	–	15	7	2
TOTAL DEATHS REPORTED THIS PERIOD	781	767		7289	7186	
Deaths from pneumonia and influenza	21	30		291	239	
Medical Examiner cases		145			1349	
Drug-related cases		21			211	
Cocaine-related cases		12			86	

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

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Aeromonas Reporting § AIDS-related Cancer Reporting

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MEDICAL ALERT – SYPHILIS IN SAN FRANCISCO

Syphilis is a significant public health problem in San Francisco. Over the past two years, there has been a dramatic rise in the rate of infectious syphilis, especially in women of childbearing age. The overall incidence of early syphilis has almost doubled in San Francisco, increasing from 52 cases per 100,000 residents in 1988 to 83 cases per 100,000 residents in 1990. The overall rate of infectious syphilis in San Francisco is now four times the national average. Blacks are disproportionately affected, with a rate of 144 cases per 100,000 in 1988 and 464 cases per 100,000 in 1990, more than a three-fold increase.

Of most concern is the fact that the overall rate of infectious syphilis among women between the ages of 15 and 44 has increased two-fold over the past two years, rising from 27 cases per 100,000 women of reproductive age in 1988 to 52 cases in 1990. The most significant increase has been among young black women; with 267 cases per 100,000 black women of reproductive age in 1988 compared with 890 cases in 1990. In addition, nine percent of the women found to have syphilis in 1990 in San Francisco were also pregnant. As a result of these high rates of infectious syphilis among women of reproductive age, San Francisco is defined as experiencing an epidemic of congenital syphilis. In 1990, 22 cases of congenital syphilis were identified, compared with 2 cases of congenital syphilis in 1988.

To control this epidemic of syphilis in adults and to prevent the devastating effects on newborns, the following public health recommendations should be implemented **immediately** by **all** health care providers in San Francisco.

Recommendations

I. SCREENING AND TESTING FOR SYPHILIS

Syphilis screening tests (VDRL or RPR) **must** be obtained in the following populations:

A. SEXUALLY ACTIVE PERSONS

1. Any patient with a genital lesion or body rash.
2. All patients with a suspected or known STD (i.e., those with or being treated for gonorrhea, chlamydia, PID, trichomoniasis, herpes, and genital warts).
3. All sexual partners of patients with a suspected or known STD.
4. Sexually active persons with multiple partners.

B. PREGNANT WOMEN

1. All pregnant women should be screened for syphilis at the following times during pregnancy:
   at their initial prenatal visit, preferably in **the first trimester**
   AND
   at the beginning of **the third trimester**
   AND
   at **delivery.**
2. When follow-up is uncertain, postpartum women should not be discharged from the hospital until the results of the serologic test obtained on admission are known.
3. All pregnant women who deliver a stillborn baby must be screened for syphilis.

4. Pregnant women seen in the emergency room who are without regular prenatal care should have a VDRL or RPR test done. When available, an RPR is preferable because the result can be obtained before the patient leaves the emergency room.

C. NEWBORNS
1. All babies born in San Francisco hospitals should be screened for syphilis by obtaining cord blood for a VDRL test.
2. Any baby born to a seropositive mother with untreated syphilis* or syphilis treated within four weeks prior to delivery must have a complete evaluation including:
   a thorough physical examination
   AND
   a nontreponemal antibody titer (VDRL or RPR)
   AND
   a CSF analysis for cells, protein, and VDRL
   AND
   a long bone x-ray.

II. REPORTING OF POSSIBLE OR KNOWN SYPHILIS CASES

A. All suspected cases of syphilis must be reported within 24 hours to the divison of STD Control of the San Francisco Department of Public Health by calling the 24-hour confidential STD reporting telephone hotline (415) 495-7432 or by mailing a Confidential Morbidity Card (CMR) to City Clinic, 356 - 7th Street, San Francisco, CA 94103.

B. All positive syphilis screening tests (VDRL or RPR) including positive cord blood, CSF and follow-up serologies also must be reported within 24 hours.

Positive VDRL or RPR tests should be reported before the results of the confirmatory treponemal tests are available. Positive darkfield tests, DFA tests, and special stains of biopsy material for treponemes also must be reported within 24 hours.

Medical care providers can play an important role in preventing the spread of infectious syphilis. Intensified control efforts require a high index of suspicion, as well as prompt treatment and reporting of every suspected case. Refer to Table 1 for syphilis treatment guidelines.

Health care providers with any questions or who need assistance with evaluating or managing a suspected case of syphilis can call the division of STD Control of the San Francisco Department of Public Health (415-864-8100). Dr. Jennifer Flood, STD Fellow, Dr. Joseph Engelman, medical director of City Clinic, and Dr. Gail Bolan, director of the division of STD Control are available for consultation. In addition, patients or sexual partners can be referred to City Clinic, 356 - 7th Street for comprehensive STD evaluations including darkfield examinations and syphilis serologic testing. The clinic is open Monday and Thursday 9:30 a.m. to 6:00 p.m., Tuesday 8:00 a.m. to 3:00 p.m., Wednesday 8:00 a.m. to 4:00 p.m., and Friday 9:00 a.m. to 4:00 p.m. No appointment is needed. A $5.00 donation is requested but not required. When referring a suspected case of syphilis, Dr. Engelman should be informed of the referral by calling 415-864-8100 to ensure that the patient is seen in a timely fashion at the clinic.

A comprehensive 2-day clinical update on syphilis is scheduled for February 28th and March 1st through the San Francisco STD Prevention/Training Center (see the schedule on page 4).

**Untreated syphilis includes no well-documented history of treatment; a history of adequate treatment before pregnancy but insufficient serologic follow-up during pregnancy to assess disease activity; use of a non-penicillin treatment regimen during pregnancy; or use of a penicillin treatment regimen during pregnancy but insufficient serologic follow-up during pregnancy to assess disease activity.*

Table 1. Syphilis treatment recommendations (CDC 1989)

A. SEXUALLY ACTIVE NON-PREGNANT PERSONS
   1. Incubating, primary, secondary and syphilis of less than 1 years duration:
      a. Benzathine penicillin G 2.4 million units IM, in one dose.
      b. If penicillin allergy – Doxycycline 100 mg orally 2 times a day for 2 weeks ***(use only with close follow-up in HIV-infected patients)***.
   2. Syphilis of greater than 1 years duration or of undetermined age (excluding neurosyphilis):
      a. Benzathine penicillin G 2.4 million units IM x 3 doses, given 1 week apart for 3 consecutive weeks (7.2 million units total).
      b. If penicillin allergy – Doxycycline 100 mg orally 2 times a day for 4 weeks ***(not recommended in HIV-infected patients)***. These patients should be desensitized and treated with Benzathine penicillin G.
   3. Neurosyphilis**
      a. Aqueous crystalline penicillin G 12–24 million units daily administered as 2–4 million units IV every 4 hours for 10–14 days. In penicillin–allergic patients with neurosyphilis, no alternative regimen is currently recommended. These patients must be desensitized and treated with aqueous crystalline or procaine penicillin G.
      b. Aqueous procaine penicillin G 2.4 million units IM daily and Probenecid 500 mg orally 4 times a day, both for 10–14 days.

B. PREGNANT WOMEN
   1. Incubating, primary, secondary and syphilis of less than one years duration.
      Benzathine penicillin G 2.4 million units IM, in one dose.
      In the penicillin–allergic pregnant women with syphilis ERYTHROMYCIN IS NO LONGER RECOMMENDED. These women must be desensitized and treated with Benzathine penicillin G.
   2. Syphilis of greater than 1 years duration or of undetermined age (excluding neurosyphilis).
      Benzathine penicillin G 2.4 million units IM x 3 doses, given 1 week apart for 3 consecutive weeks (7.2 million units total).
      In penicillin–allergic pregnant women with syphilis ERYTHROMYCIN IS NO LONGER RECOMMENDED. These women must be desensitized and treated with Benzathine penicillin G.

C. NEWBORNS
   1. Congenital syphilis
      Aqueous crystalline penicillin G 100,000–150,000 units/kg daily administered as 50,000 units/kg IV every 8–12 hours for 10–14 days.

Indications for lumbar puncture -
1. Patients with any stage of syphilis AND neurolgic signs or symptoms consistent with neurosyphilis.
2. Patients with syphilis of greater than one years duration AND one of the following: HIV infection, penicillin allergy, serum nontreponemal titer ≥1:32, or treatment failure.

In mid 1990, the San Francisco Sexually Transmitted Disease Prevention/Training Center of the STD Control Division of the Department of Public Health began to offer courses on STDs with funds from the Centers for Disease Control. The Training Center, now fully operational, offers a range of CDC-designed courses: STD clinical courses, laboratory methods courses, and HIV prevention education program courses. Courses for the 1991 calendar year are as follows:

STD Update – Syphilis (013B): a two-day seminar for clinicians and health care providers.
February 28 – March 1, 1991

STD Update – Counseling the STD Patient (013B): a two-day seminar for clinicians and health care providers.
August 15 – 16, 1991

STD Update – Substance Abuse and STDs (013B): a two-day seminar for clinicians and health care providers.
September 26 – 27, 1991

STD Comprehensive (0149): a two-week clinical training course for clinicians. The course includes lectures, discussion and considerable clinical and laboratory experience.
March 11 – 22, 1991
October 21 – November 1, 1991

STD Intensive (0154): an introductory one-week clinical training course for clinicians, including didactic, clinical and laboratory experience.
January 28 – February 1, 1991

Advanced STD Course for Clinicians (0165): a one-week course for experienced clinicians needing advanced training. The course includes lectures, clinic and laboratory experience (3 days of lectures, 2 days in the clinic and laboratory).
July 8 – 12, 1991

Laboratory Methods (008U): a three-day course for personnel performing laboratory procedures in the clinical setting.
April 17 – 19, 1991
June 5 – 7, 1991

Laboratory Methods – RPR (008U): a one-day course for personnel performing RPR tests in the clinical setting. ***May be taken separately or in conjunction with the one-day Darkfield Microscopy course (see below).***
February 12, 1991
August 26, 1991

Laboratory Methods – Darkfield Microscopy (008U): a one-day course for personnel performing darkfield microscopy procedures in the clinical setting. ***May be taken separately or in conjunction with the one-day RPR course (see above).***
February 13, 1991
August 27, 1991

Planning and Evaluating HIV Prevention Programs (016Q): a four-day course targeted to agency staff, educators and counselors from community-based organizations.
May 14 – 17, 1991
July 23 – 26, 1991
November 19 – 22, 1991

Course enrollment is limited. Courses are free of charge. CMEs and CEUs are offered. Interested individuals are encouraged to apply as soon as possible to secure space in the desired course(s). For application materials write to the STD Prevention/Training Center at 1372 Mission Street, San Francisco, CA 94103, or call (415) 554-9620.

Aeromonas Species Infection Reporting

In April 1988 the California Department of Health Services issued a directive that infections due to *Vibrio* species or to *Aeromonas* species be reported by physicians and laboratories.

Vibrio infections remain reportable but the requirement for reporting *Aeromonas* infections has been dropped since this surveillance has not yielded opportunities for public health intervention. **Effective December 17, 1990 neither physicians nor laboratories are required to report sporadic *Aeromonas* infections.**

AIDS-related Cancer Reporting

A recent linkage of datasets from the San Francisco AIDS registry and the California Tumor Registry revealed that each registry missed 20% of the Kaposi's sarcoma diagnoses that the other registry had obtained. Pursuant to Sections 211.3 and 2500 of the California Health and Safety Code, AIDS-related cancers diagnosed in San Francisco are reportable conditions both as AIDS diagnoses and as malignancies. To comply with mandatory reporting requirements and to enhance the epidemiologic value of both registries, the AIDS Surveillance Branch of the Department of Public Health's AIDS Office will continue to match datasets of AIDS-related cancers with the California Tumor Registry. Each registry will share information missed by the other. Information shared is limited to tumor classification and enough patient identification to permit further medical chart review. A professional abstractor from the Tumor Registry or the AIDS Office will contact the diagnosing facility for further epidemiologic data once a malignancy is reported to either registry. Both registries are bound by the strict confidentiality guidelines for public health records. **For further reporting information, call the San Francisco Department of Public Health AIDS Office at 554-9053**

Reference

1. Reynolds P, Layefsky ME, Saunders LD, Lemp GF, and Payne SF. Kaposi's Sarcoma Reporting in San Francisco: A Comparison of AIDS and Cancer Surveillance Systems. Journal of Acquired Immune Deficiency Syndromes 1990;3(supp. 1):S8-S13.

***Erratum:** In the last issue of this bulletin, the contributing author of "Ryan White Comprehensive AIDS Resources Emergency (CARE) Act of 1990," was inadvertantly omitted. The article was contributed by the Health Resources and Services Branch of the San Francisco Department of Public Health AIDS Office. The editor wishes to apologize for this oversight and any inconvenience it may have caused our readers.*

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING December 1, 1990

DISEASE	CASES REPORTED WEEKS 45 THROUGH 48			TOTAL CASES REPORTED TO DATE		
	1988	1989	1990	1988	1989	1990
AIDS	135	140	167	1477	1777	1953
AMEBIASIS	22	14	16	353	282	287
CAMPYLOBACTERIOSIS	25	42	46	485	619	720
CHANCROID	-	4	1	1	16	44
CHLAMYDIAL INFECTIONS			233			2630
GIARDIASIS	27	19	16	382	375	320
GONORRHEA	472	317	270	6111	4429	3877
H. INFLUENZAE INVASIVE DISEASE	-	-	1	4	25	24
HEPATITIS Type A	20	21	34	255	247	254
HEPATITIS Type B	13	7	20	85	77	132
HEPATITIS Non A - Non B	-	-	3	16	8	9
LISTERIOSIS	2	2	-	15	16	10
LYME DISEASE	4	-	1	15	8	2
MALARIA	2	1	3	17	38	28
MEASLES	-	1	-	5	11	37
MENINGOCOCCAL INFECTIONS	1	1	1	3	15	8
PELVIC INFLAMMATORY DISEASE			19			297
PERTUSSIS	-	-	-	3	7	3
RUBELLA		1	-		2	1
SALMONELLOSIS	11	20	21	214	212	198
SHIGELLOSIS	30	22	29	398	380	332
SYPHILIS, Total	56	45	57	560	579	870
SYPHILIS, Primary & Secondary	20	18	25	212	211	353
TUBERCULOSIS	21	22	17	288	259	310
TYPHOID FEVER	-	-	-	15	7	2
TOTAL DEATHS REPORTED THIS PERIOD	659	600		7948	7786	
Deaths from pneumonia and influenza	15	23		306	262	
Medical Examiner cases		103			1452	
Drug-related cases		20			231	
Cocaine-related cases		11			97	

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

Vol. 7, No. 2 February 1991

IN THIS ISSUE: *Campylobacter infections in San Francisco*

Campylobacter infections in San Francisco 1986–1990

Campylobacter infections were made reportable by the state in March 1989. San Francisco had required reporting since 1986, however. This article will review the reports of campylobacter infections for the years 1986–1990.

The age and sex adjusted incidence of campylobacter infections ranged from 48/100,000 to 98/100,000 and is shown in Figure 1. Ethnic origin is shown in Figure 2. Rates are based on 1980 census data with adjustment done using Department of Finance estimates. These estimates are not available by race, so rates in Figure 2 are based on 1980 census data and no adjustment has been done.

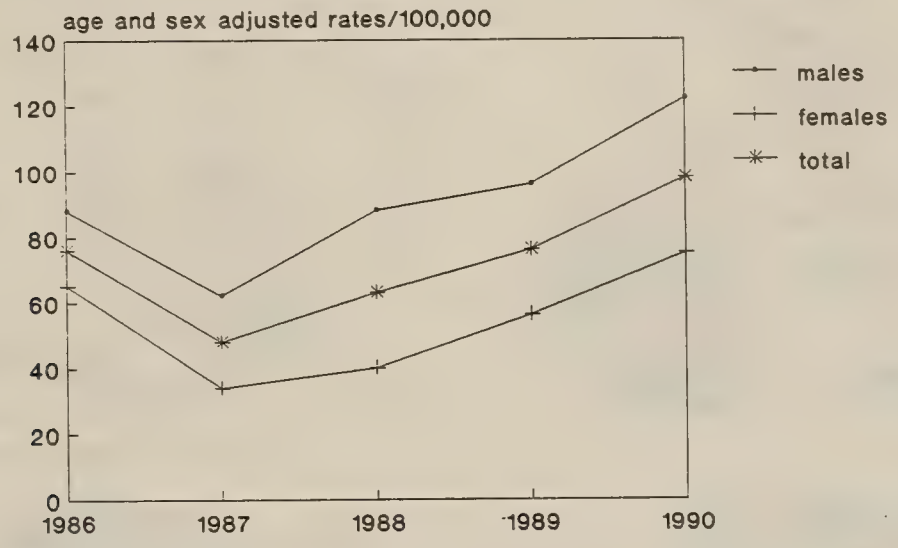

Figure 1. Campylobacter infections in San Francisco 1986–1990.

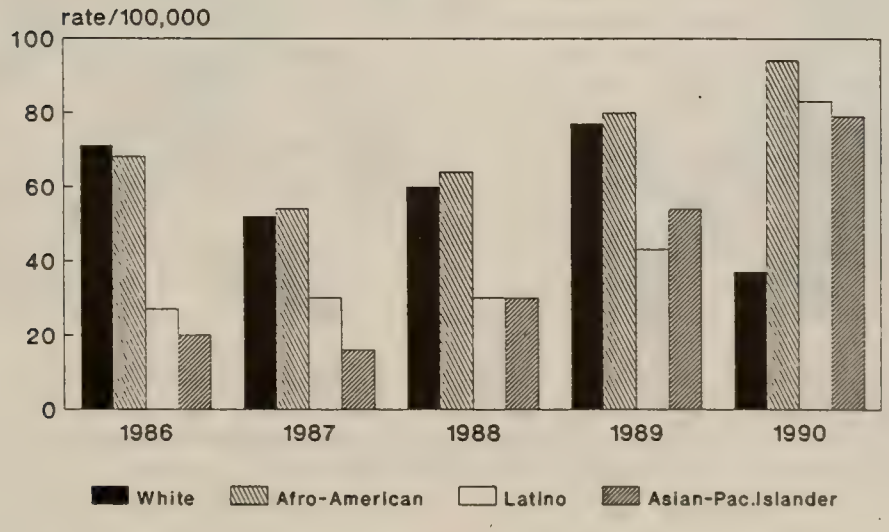

Figure 2. Campylobacter Infections in San Francisco by ethnic origin.

The reports for all five years were grouped together in order to examine distribution throughout the city. Incidence was calculated for each census tract using all cases reported for five years then divided by five. Figure 3 shows rates of incidence by ethnic origin and by census tract.

Age specific rates of infection are shown in Figure 4. These rates are based on Department of Finance estimates of population. Of the 2,740 reported cases 356 (13%) occurred in children less than 5 years of age. Approximately 5.5% of the population is in this age group. In this age group whites are underrepresented in comparison to cases older than 5, (22% compared to 57%) while Asians (22% compared to 11%) and Latinos (26% compared to 9%) are overrepresented (Figure 5). The ratio of males to females in the age group <5 approximates that in the group as a whole (males 58% compared to 61%).

Data regarding sexual orientation and immune suppression are available for 1990 only. Immune suppression was present in 110 of the 781 cases. In that year there were 467 cases in males, 142 of whom provided information on sexual orientation. Sixty-eight cases were in men who identified themselves as gay or bisexual.

Figure 3. Campylobacter incidence by census tract and race in San Francisco 1986–1990.

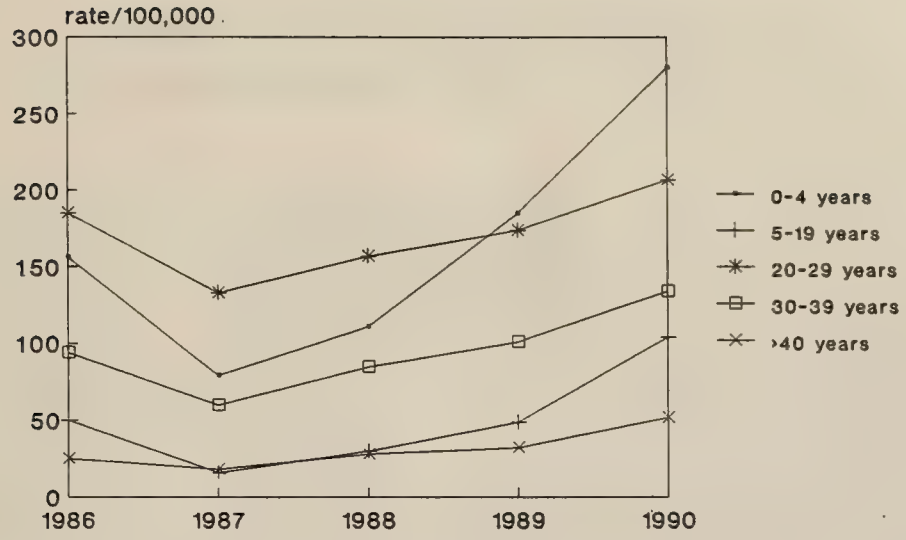

Figure 4. Campylobacter infections by age specific incidence in San Francisco 1986–1990.

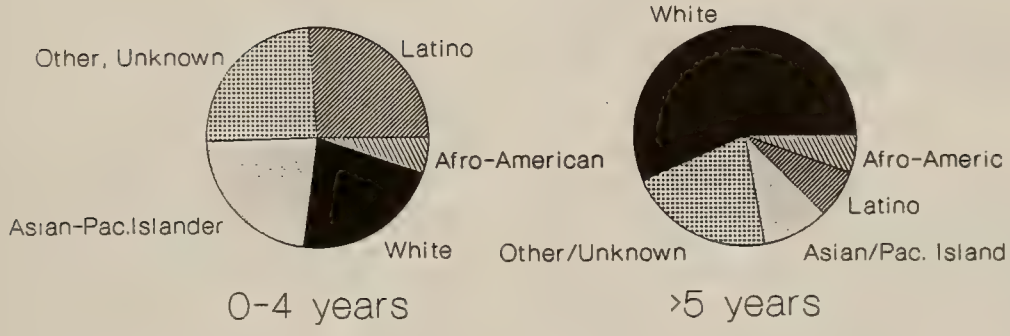

Figure 5. Campylobacter infections by race and age group.

Editorial note: Rates of campylobacter infections in the age group 0–4 are shown as sharply rising in recent years. This is probably an artifact of inaccurate population estimates for this age group. When the population estimate for infants less than one is compared to the number of births to San Francisco residents, the estimate is consistently lower, with the gap widening in succeeding years. This has the effect of assigning the number of cases for a larger true population to a smaller estimated population resulting in a false high incidence rate. Campylobacter infections have by far the highest incidence of enteric bacterial infections reported. The elevated rates in males, compared to females, appear in many other reportable diseases as well and so probably have a broad explanation related to care seeking, risk behavior, etc., rather than one specific to campylobacter. It is difficult to interpret the differences in incidence by race but it is possible that access to care plays a role. This hypothesis is supported by the geographic distribution of non–white cases which show census tracts of higher socio–economic status as often having elevated rates. This phenomonon does not exist for other enteric infections, however so the possibility of other reasons for the distribution cannot be ignored.

Reported by Bureau of Epidemiology and Disease Control.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING December 29, 1990

DISEASE	CASES REPORTED WEEKS 49 THROUGH 52			TOTAL CASES REPORTED TO DATE		
	1988	1989	1990	1988	1989	1990
AIDS	126	136	141	1603	1913	2094
AMEBIASIS	25	33	31	378	315	318
CAMPYLOBACTERIOSIS	44	47	61	529	666	781
CHANCROID	–	4	3	1	20	47
CHLAMYDIAL INFECTIONS			204			2834
GIARDIASIS	28	22	29	410	397	349
GONORRHEA	546	369	288	6657	4798	4165
H. INFLUENZAE INVASIVE DISEASE	–	1	–	4	26	24
HEPATITIS Type A	9	18	18	264	265	272
HEPATITIS Type B	19	11	22	104	88	154
HEPATITIS Non A - Non B	3	2	–	19	10	9
LISTERIOSIS	2	1	–	17	17	10
LYME DISEASE	–	–	–	15	8	2
MALARIA	5	1	1	22	39	29
MEASLES	–	–	–	5	11	37
MENINGOCOCCAL INFECTIONS	–	1	–	3	16	8
PELVIC INFLAMMATORY DISEASE			18			315
PERTUSSIS	–	–	–	3	7	3
RUBELLA		–	–		2	1
SALMONELLOSIS	21	14	15	235	226	213
SHIGELLOSIS	31	24	29	429	404	361
SYPHILIS, Total	73	65	58	633	644	928
SYPHILIS, Primary & Secondary	20	28	26	232	239	379
TUBERCULOSIS	26	25	24	314	284	334
TYPHOID FEVER	3	1	–	18	7	2
TOTAL DEATHS REPORTED THIS PERIOD	649	703		8597	8489	
Deaths from pneumonia and influenza	18	23		324	285	
Medical Examiner cases		127			1579	
Drug-related cases		10			241	
Cocaine-related cases		7			104	

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

Vol. 7, No. 3 March 1991

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IN THIS ISSUE: ***Sexually transmitted diseases in San Francisco, 1985-1990***

Epidemiology of reportable sexually transmitted diseases in San Francisco, 1985–1990

Control of sexually transmitted diseases (STDs) is one of the oldest mandates of the San Francisco Department of Public Health. The following is an assessment of STDs in San Francisco in 1990 and trends in STD morbidity over the past five years.

Sources of data. Under Title 17, the California Administrative code requires all laboratories that isolate or identify a reportable STD agent and all health care providers who diagnose a reportable STD case to submit the name of the infected patient, and his or her demographics to the local health department. Required demographic data includes name, address, sex, date of birth and race/ethnicity. As of 1990, reportable STDs in California include the following: syphilis, gonorrhea, including penicillinase-producing *Neisseria gonorrheae* (PPNG), chlamydia, pelvic inflammatory disease (PID), non-gonococcal urethritis (NGU), chancroid, lymphogranuloma venereum, and granuloma inguinale. The case definitions for NGU and PID are provided in Appendix I.

Case data are reported confidentially by mail and telephone to the Division of STD Control, San Francisco Department of Public Health. Active surveillance for STDs consists of yearly audits of San Francisco laboratory records to discover unreported cases. No audits have been done among private providers.

Because the majority of cases are identified by reports from laboratories, follow-up letters and phone calls are usually necessary to obtain all required demographic information. In 1990, race/ethnicity was not determined for 35 percent of reported STDs from the private sector and for 14 percent of public cases outside San Francisco's STD Clinic. Between 1985 and 1990, 7,069 gonorrhea and chlamydia cases were reported without race/ethnicity.

City Clinic, the Health Department's public STD clinic, was the single greatest source of STD reports: of the 7,611 STDs reported in 1990, 41 percent were diagnosed at City Clinic (Table 1). Other public clinics and hospitals reported 24 percent of all STDs, and private hospitals, clinics and providers reported 33 percent. Private providers reported 47 percent of all chlamydia cases, but only 23 percent of syphilis cases of less than one year's duration.

There have been only 20 reports of lymphogranuloma venereum and two reports of granuloma inguinale since 1985. The focus of this report, therefore, will be on gonorrhea, syphilis, chlamydia, and chancroid, with PID cases included in gonorrhea and chlamydia totals.

Overall trends. As seen in Table 2, the incidence of gonorrhea remains the highest of all STDs, while chancroid is lowest. The 1990 overall gonorrhea rate was 40 percent higher than chlamydia, and nearly seven times the rate of early syphilis. However, the number of gonorrhea cases has fallen since 1988, while every other STD has increased.

It should be noted that chlamydia was not legally reportable before 1989, and many private providers have not yet begun to report chlamydia cases. Also, because there is no inexpensive, sensitive chlamydia diagnostic test, many patients with chlamydia are not identified. The reported incidence of chlamydia in 1990 is therefore an underestimate, and the increases in reported incidence since 1988 cannot be interpreted. Aside from chlamydia, the greatest increases since 1988 were in PPNG cases (824 percent increase) and chancroid (556 percent increase), while infectious syphilis increased 65 percent.

Race/ethnicity-specific rates. The 1990 incidence of each STD was highest among African Americans, followed by Latinos and whites, and lowest for Asians and other race/ethnicities (Table 3). The sole exception was chlamydia, where rates for whites were

lower than rates for Asians and other race/ethnicities, possibly due to underreporting in the private sector. The rate of gonorrhea and early syphilis among African Americans was at least 10 times as great as whites and at least 6 times as great as Latinos, and the Latino rates were at least twice as great as whites.

While the relative order of these race-specific rates remained constant between 1985 and 1990, the differences between them changed. The incidence of early syphilis cases among African Americans increased from 143.8 cases per 100,000 San Francisco residents in 1988 to 478.5 in 1990. The incidence for whites and Latinos declined from 36.9 and 88.8, respectively, in 1988, to 26.7 and 52.8 in 1990 (Figure 1). Data from interviews of STD cases indicates that 25 percent of early syphilis cases among African American are heterosexual crack users.

Gonorrhea rates for whites and Latinos decreased steadily between 1985 and 1990, while rates for African Americans peaked in 1988 at 3,949 per 100,000 African American residents (Figure 2). Nine times as many PPNG cases were reported among whites in 1990 compared to 1988, while African American cases increased by a factor of 22; Latino, Asian and other race/ethnicities increased by factors of 7 and 4 respectively (Figure 3). The race/ethnicity distribution of chancroid cases remained constant.

Age-specific rates. In 1990, the incidence of chlamydia and gonorrhea declined for successive five-year age groups; early syphilis rates, however, remained high until 40 years of age (Figure 4). These age-specific trends were seen for each race/ethnicity, and differences among race/ethnicities in age-specific rates were similar to the race/ethnicity specific differences noted above.

Unlike the race/ethnicity-specific rates, trends in age-specific rates between 1988-1990 are similar to the overall trends for each STD. Further, age-specific trends over time within each race/ethnicity group are similar to trends for each race/ethnicity as a whole.

Male/female ratios. The ratio of male to female cases in 1990 was highest for chancroid (5.6) and lowest for chlamydia (0.3), which was the only STD with more female cases reported than male cases. The closest number of male and female cases for each STD were seen among African Americans, and the greatest differences were seen in whites. Excluding chlamydia, whites and Latinos had at least 4 times as many male STD cases as female cases. For African Americans, the ratio was always under 2.

The male/female ratio for gonorrhea cases remained essentially unchanged during 1988-1990, while the ratio for syphilis decreased (Figure 5); this trend was seen within each race/ethnicity as well. The proportions of male cases increased steadily with age group (Figure 6).

Editorial note: San Francisco is experiencing increasing rates of syphilis, chancroid, and PPNG, while non-resistant gonorrhea rates are declining. This is the opposite of what was seen between 1986 and 1988, when gonorrhea totals were increasing while syphilis cases decreased.

The current increase in syphilis in San Francisco is due to an increase of syphilis among African Americans. Rates for whites, Latinos, and other race/ethnicities have declined over the past two years, while the rates for African Americans has tripled. Increasing syphilis rates among heterosexual minorities have been seen elsewhere in the United States during the past decade, and have been attributed in part to increases in cocaine use (1). Case interview data suggest that increasing syphilis rates in San Francisco are among heterosexual African Americans and is fueled by the crack epidemic. Clearly, STD prevention efforts must continue to focus on this population.

Audits of laboratories have revealed that there are a significant number of STD cases that are not reported by clinicians to the Department of Public Health. Even if all positive STD tests and isolates were reported by all laboratories, there would still be many unreported persons with STDs who are treated empirically without diagnostic testing, or who are asymptomatic and do not seek medical care. Because of these problems, the figures reported above should only be interpreted as minimum estimates of the true incidence of STDs in San Francisco.

It should also be noted that minority populations may be overrepresented in the STD surveillance database. Therefore, the differences between racial/ethnic groups may not be as great. However, the actual changes in incidence over time should not be greatly affected by this artifact.

Differences between the sex distribution of chlamydia cases and that of other STDs is most likely due to chlamydia testing among

asymptomatic women and lack of testing among men who have NGU and are asymptomatic.

The observed increase in male/female ratios with age could result from one or more of the following: an increase in the proportion of cases among gay men; an increase in the proportion of cases among heterosexual or bisexual men infected by a core group of women with large numbers of sexual partners; or an increase in the proportion of asymptomatic or otherwise undiagnosed cases among women. Because sexual orientation and sexual behavior data are not included in confidential morbidity reports, the interpretation of these ratios is difficult.

Planning effective STD prevention and intervention strategies ultimately depends on the quality of surveillance data. Improving reporting of STDs (particularly chlamydia, NGU, and PID) and completeness of demographic data on reported cases (including the race/ethnic origin, date of birth, gender, and address) is a priority for the Division of STD Control.

Any health care provider needing confidential morbidity reporting cards or general information on how to report STDs should contact Alberto Martinez, STD Surveillance Coordinator, at 864-8100.

References

1. Rolfs RT, Golberg M, Sharrar RG. Risk factors for syphilis: cocaine use and prostitution. Am J Public Health 1990 Jul;80(7):853-857.

Table 1. STDs reported in 1990 by type of health care provider, with percent of all reported STDs attributed to provider.

	(total)		*Gonorrhea (all)*		*Chlamydia*		*Early Syphilis*		*PPNG*		*Chancroid*	
Health care provider	*cases*	*column percent*	*cases*	*column percent*	*cases*	*column percent*	*cases*	*column percent*	*cases*	*column percent*	*cases*	*column percent*
CITY CLINIC	3,134	41.2%	2,026	49.9%	654	23.3%	318	54.6%	224	52.7%	49	83.0%
PRIVATE	2,540	33.3%	1,068	26.3%	1,326	47.4%	134	23.0%	108	25.4%	2	3.3%
OTHER PUBLIC	1,831	24.1%	905	22.3%	773	27.6%	123	21.1%	89	20.9%	8	13.5%
OOJ	106	1.4%	54	1.3%	44	1.5%	7	1.2%	4	0.9%	0	0.0%
(total)	7,611	100.0%	4,053	100.0%	2,797	100.0%	582	100.0%	425	100.0%	59	100.0%

Table 2. Total reported STD cases (and incidence rates), 1985-1990. Denominators from 1980 US Census data.

	Gonorrhea (all)		*Chlamydia*		*Early Syphilis*		*PPNG*		*Chancroid*	
	cases	*rate*	*cases*	*rate*	*cases*	*rate*	*cases*	*rate*	*cases*	*rate*
1985	6,195	(912.4)	*NOT REPORTABLE*		748	(110.2)	19	(2.8)	1	(0.1)
1986	5,300	(780.6)	*NOT REPORTABLE*		522	(76.9)	38	(5.6)	2	(0.3)
1987	5,583	(822.3)	*NOT REPORTABLE*		373	(54.9)	43	(6.3)	1	(0.1)
1988	5,887	(867.0)	*NOT REPORTABLE*		351	(51.7)	46	(6.8)	9	(1.3)
1989	4,438	(653.6)	1,909	(281.2)	373	(54.9)	205	(30.2)	33	(4.9)
1990	4,053	(596.9)	2,797	(411.9)	582	(85.7)	425	(62.6)	59	(8.7)

Table 3. Total reported STD cases (and incidence rates), by race/ethnicity for 1990. Denominators from 1980 US Census data.

	Gonorrhea (all)		*Chlamydia*		*Early Syphilis*		*PPNG*		*Chancroid*	
	cases	*rate*	*cases*	*rate*	*cases*	*rate*	*cases*	*rate*	*cases*	*rate*
African Americans	2,254	(2656.2)	954	(1124.2)	407	(479.6)	281	(331.1)	34	(40.1)
Latinos	351	(421.0)	337	(404.2)	44	(52.8)	34	(40.8)	18	(21.6)
whites	867	(244.1)	529	(148.9)	95	(26.7)	53	(14.9)	7	(2.0)
Asians and others	133	(85.5)	269	(172.9)	17	(10.9)	26	(17.6)	*NO CASES*	
(unknown)	448		708		19		31		*NO CASES*	

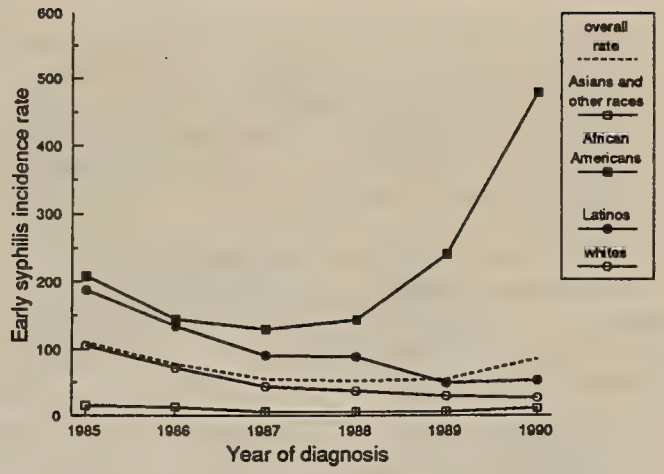

Figure 1. Early syphilis incidence rate, 1985–1990, by race/ethnicity, with overall rate. Denominators from 1980 US Census data.

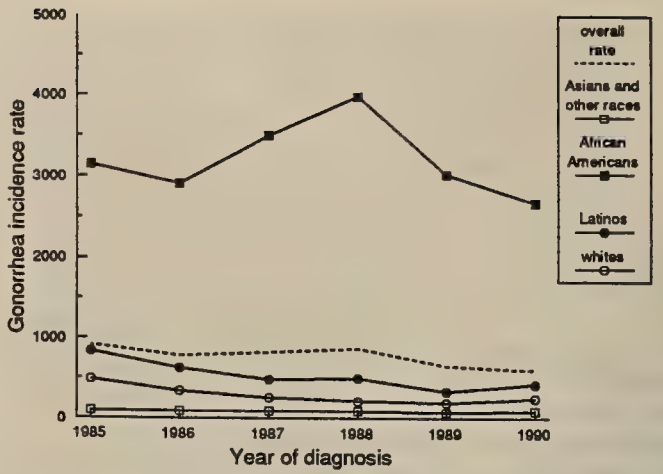

Figure 2. Gonorrhea incidence rate, 1985–1990, by race/ethnicity, with overall rate. Denominators from 1980 US Census data.

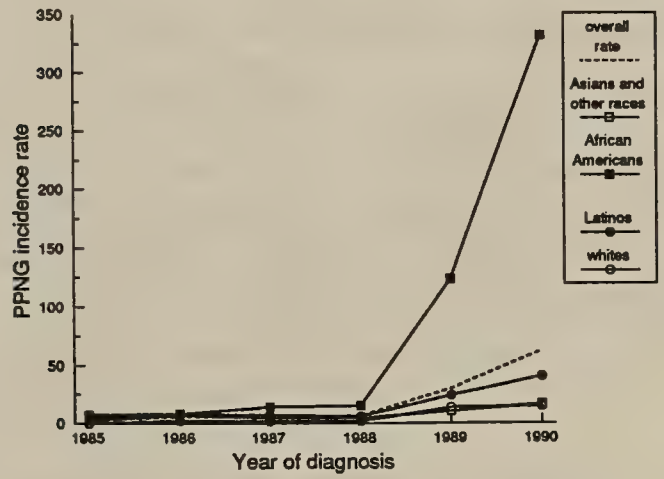

Figure 3. PPNG incidence rate, 1985–1990, by race/ethnicity, with overall rate. Denominators from 1980 US Census data.

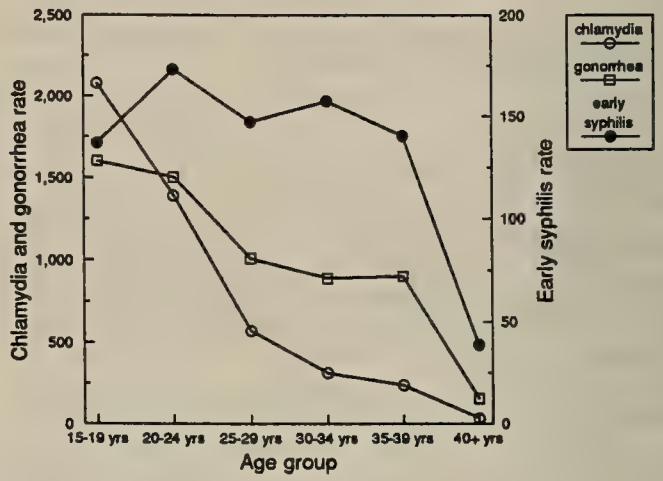

Figure 4. Incidence rates for STDs by age group, 1990 only. ***Note separate scale for early syphilis rate.***

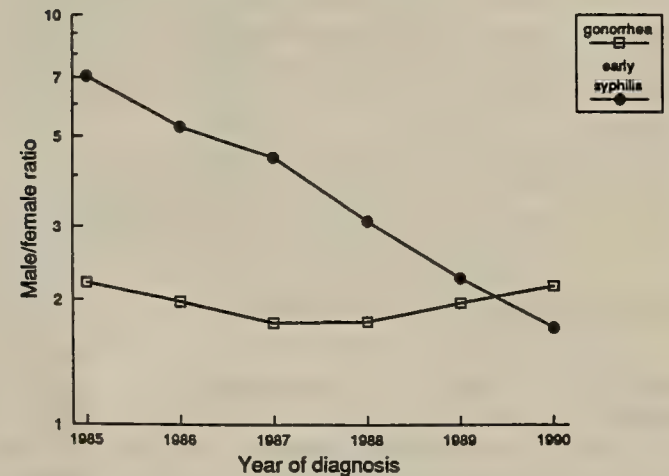

Figure 5. Male/female ratio for reported gonorrhea and early syphilis cases, 1985–1990. ***Note that scale is logarithmic.***

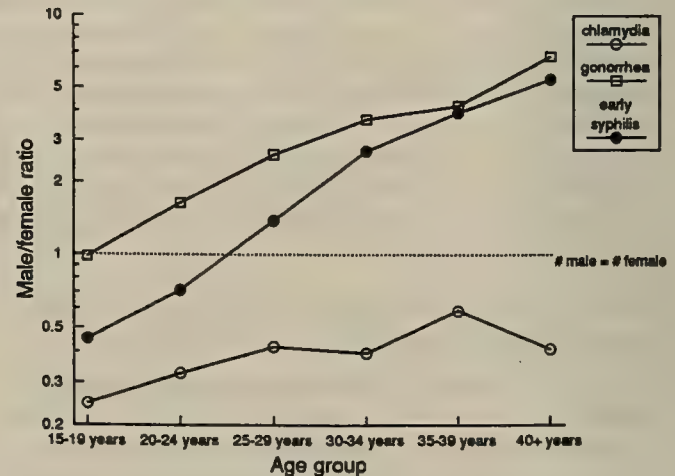

Figure 6. Male/female ratio for reported gonorrhea, chlamydia, and early syphilis cases by age group, 1990 only. ***Note that scale is logarithmic.***

APPENDIX I

Case definitions for NGU and PID. Adapted from: "Case Definitions for Public Health Surveillance," *Morbidity and Mortality Weekly Report,* 39(RR-13), October 19, 1990.

NONGONOCOCCAL URETHRITIS

Clinical description

Urethral inflammation that is not the result of infection with ***Neisseria gonorrheae***. Urethral inflammation may be diagnosed by the presence of one or more of the following criteria:

1. a visible abnormal urethral discharge (excludes scant amounts of clear mucus)
2. a positive leukocyte esterase test from men under 60 years of age without a history of kidney disease or bladder infection, prostate enlargement, urogenital anatomic anomaly, or recent urinary tract instrumentation
3. microscopic evidence of urethritis (>=5 WBC per high-power field) on a Gram stain of a urethral smear

Laboratory criteria for diagnosis

No evidence of ***N. gonorrheae*** infection by culture or Gram stain.

Comment

Nongonococcal urethritis (NGU) is a clinical diagnosis of urethritis after excluding ***N. gonorrheae*** as a cause of infection. The syndrome may result from infection with several agents, including ***Chlamydia trachomatis***. An illness among men that meets the case definition of NGU where ***C. trachomatis*** is isolated by culture or antigen detection methods should be classified as chlamydia. If the result of chlamydia testing is not available, the illness should be classified as NGU.

PELVIC INFLAMMATORY DISEASE

(Note: the following definition is being reviewed by CDC, and changes are anticipated.)

Clinical case definition

A clinical syndrome resulting from the ascending spread of microorganisms from the vagina and endocervix to the endometrium, fallopian tubes, and/or contiguous structures. All of the following clinical criteria must be present:

1. abdominal direct tenderness
2. tenderness with motion of the cervix
3. adnexal tenderness

In addition to all of the above, at least one of the following findings must also be present:

1. meets the case definition of ***C. trachomatis*** or gonorrhea infection
2. temperature >38° C
3. leukocytosis >10,000 WBC/mm^3
4. purulent material in the peritoneal cavity obtained by culdocentesis or laparoscopy
5. pelvic abscess or inflammatory complex on bimanual examination or by sonography
6. patient is sexual contact of person known to have gonorrhea, chlamydia, or nongonococcal urethritis.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING February 2, 1991

DISEASE	CASES REPORTED WEEKS 1 THROUGH 5			TOTAL CASES REPORTED TO DATE		
	1989	1990	1991	1989	1990	1991
AIDS	145	219	161	145	219	161
AMEBIASIS	22	24	31	22	24	31
CAMPYLOBACTERIOSIS	63	49	63	63	49	63
CHANCROID		4	1		4	1
CHLAMYDIAL INFECTIONS		248	258		248	258
GIARDIASIS	24	36	34	24	36	34
GONORRHEA	647	398	409	647	398	409
H. INFLUENZAE INVASIVE DISEASE		1	3		1	3
HEPATITIS Type A	16	34	23	16	34	23
HEPATITIS Type B	6	10	3	6	10	3
HEPATITIS Non A - Non B						
LISTERIOSIS		1	2		1	2
LYME DISEASE						
MALARIA	1	3	1	1	3	1
MEASLES						
MENINGOCOCCAL INFECTIONS	4	1	2	4	1	2
PELVIC INFLAMMATORY DISEASE		32	29		32	29
PERTUSSIS	1		1	1		1
RUBELLA						
SALMONELLOSIS	18	18	18	18	18	18
SHIGELLOSIS	36	21	26	36	21	26
SYPHILIS, Total	53	86	65	53	86	65
SYPHILIS, Primary & Secondary	19	39	29	19	39	29
TUBERCULOSIS	21	25	31	21	25	31
TYPHOID FEVER			1			1

TOTAL DEATHS REPORTED THIS PERIOD	762	923		762	923
Deaths from pneumonia and influenza	35	42		35	42
Medical Examiner cases	178	177		178	177
Drug-related cases	19	15		19	15
Cocaine-related cases	9	5		9	5

CITY AND COUNTY OF SAN FRANCISCO
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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

Vol. 7, No. 4 April 1991

IN THIS ISSUE: *Outbreak of tuberculosis at a congregate living site § Index 1990*

SF
P70
#85 APR-91

Outbreak of tuberculosis among residents at an HIV congregate living site

Between December 19, 1990 and April 4, 1991 twelve cases of active pulmonary tuberculosis were diagnosed at an HIV congregate living site in San Francisco (Figure 1). In December 1990, a male resident who had entered the facility in November was found to have smear positive pulmonary tuberculosis (patient 1, Table 1). The patient was hospitalized and begun on antituberculous therapy 12/19/90. He did not return to the congregate living site after his hospitalization.

Another resident of the facility was admitted to a local hospital on 1/19/91 with seven days of productive cough, fever, chills, and shortness of breath (patient 2). Induced sputum was smear positive and the patient was begun on antituberculous therapy on 1/21. He subsequently grew *Mycobacterium tuberculosis* from his sputum, blood, and pleural fluid. The patient was discharged back to the facility on 2/5 but was noncompliant with his medication. He was readmitted on 2/15 and was still smear positive. Despite mechanical ventilation and antituberculous therapy he expired on 3/10/91 of respiratory failure and *Pseudomonas* sepsis.

From 2/21 to 3/4, four more residents were admitted to various hospitals with symptoms of pulmonary tuberculosis (patients 3,4,5,6). Two of these were smear and culture positive. One patient had a negative smear and a positive culture from broncoalveolar lavage. The fourth was smear and culture negative but had both radiographic and clinical improvement on antituberculous therapy. This patient had had a documented skin test conversion.

On March 6, 1991, the San Francisco City and County Tuberculosis Control Division conducted tuberculin skin test screening at the facility using mumps and *Candida* controls. Seventeen residents and 14 staff were screened. Of the residents screened there were 7 significant purified protein derivative (PPD) reactions (>5mm), one negative PPD with positive control, and 9 residents were anergic. All residents had a chest x-ray done, regardless of skin test status. Four of the staff had significant skin test reactions, one of which was a documented converter. Controls were not placed on the staff.

Three of the residents with significant skin tests were found to have active pulmonary tuberculosis. All three were smear negative and two were culture positive. One patient's cultures are still pending. Additionally, two anergic patients were found to have active pulmonary tuberculosis. Both patients were smear and culture positive. All residents without evidence of active tuberculosis (12) were offered isoniazid (INH), 10 accepted.

The last case was diagnosed on 4/4/91. This patient was found to be anergic during the screening on 3/6 but had a normal chest radiograph. Although INH was offered to the patient, his private physician decided not to begin INH because of elevated liver function tests. Three days prior to his admission to the hospital the patient developed fevers, chills, and a nonproductive cough. Sputum induction was smear positive for acid fast bacilli (AFB) (culture pending).

The congregate living site is a two-story structure with 32 private rooms and several shared bathrooms throughout the house. Each room has a heater vent (forced air) and there is no recirculation of air among the rooms. There are two group meeting rooms and a shared kitchen. Nine of the 12 cases lived on the second floor which has 15 rooms.

In summary, there were 12 cases of pulmonary tuberculosis among 23 residents of the congregate living site. Seven patients had positive AFB smears and nine had positive cultures. Cultures are pending on two cases that likely have tuberculosis. If the first case in December was the index case then the time from diagnosis of the first case to the last was 106 days. However it is possible that the 2nd case (January) was the index case and thus the outbreak would have occurred over 75 days. No staff have developed tuberculosis as yet.

Editorial Note: This outbreak demonstrates the rapidity with which tuberculosis can spread among immunocompromised individuals in an institutional setting and the importance of contact screening for tuberculosis. Screening identified 5 active cases and 8 persons with significant skin test (four staff and four residents). One anergic resident who did not take his prescribed INH subsequently developed pulmonary tuberculosis. Except for this patient, there have been no further cases from this facility since 3/9. Three of the residents with tuberculosis and end stage AIDS have died as of 4/22/91. Two of these deaths were at least partially due to tuberculosis. Guidelines for tuberculosis screening should be set up for all facilities that house high-risk individuals, especially those that are HIV seropositive.

Of residents who had the PPD, mumps and *Candida* skin tests, the PPD was by far the most potent antigen for delayed type hypersensitivity in this setting of recent transmission. Seven of 17 PPDs were positive. One each of mumps and of *Candida* was positive of 15 of each antigen placed. (Two patients refused the anergy panel.) PPD skin test is a useful diagnostic tool in AIDS patients.

This outbreak also suggests that INH preventive therapy is effective. None of 10 contacts who are receiving INH have yet developed disease. The need for tuberculosis screening prior to entry into a congregate living site for immunocompromised persons should also be emphasized. All such persons with a positive tuberculin reaction should be offered INH preventive therapy.

Reported by Tuberculosis Control.

Table 1. Bacteriology and skin tests results.

Patient	PPD	Control	Smear	Culture	Outcome
1	NA	NA	+	+	On treatment
2	+	NA	+	+	Died
3	+	+	–	–	Improved on treatment
4	NA	NA	+	+	On treatment
5	–	+	+	+	On treatment
6	NA	NA	–	+	Died
7	+	NA	–	Pending	On treatment
8	+	+	–	+	On treatment
9	–	–	+	+	Died
10	+	–	–	+	On treatment
11	–	–	+	+	On treatment
12	–	–	+	Pending	On treatment

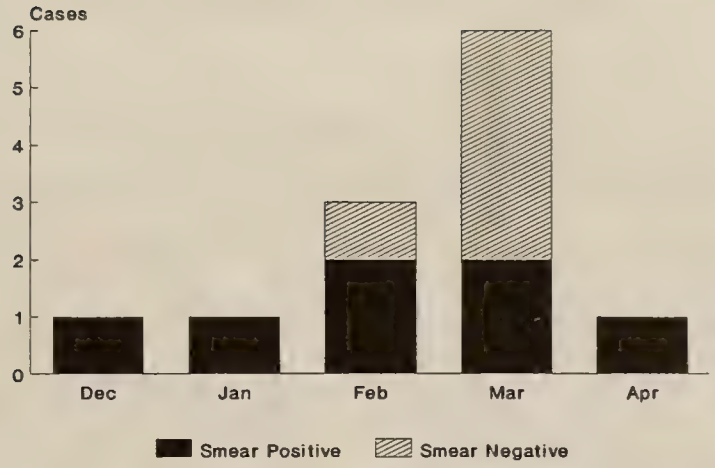

Figure 1. Outbreak of tuberculosis in HIV congregate living site.

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CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING March 2, 1991

DISEASE	CASES REPORTED WEEKS 6 THROUGH 9			TOTAL CASES REPORTED TO DATE		
	1989	1990	1991	1989	1990	1991
AIDS	142	172	195	287	391	356
AMEBIASIS	14	19	22	36	43	53
CAMPYLOBACTERIOSIS	46	39	39	109	88	102
CHANCROID		2	1		6	2
CHLAMYDIAL INFECTIONS		198	203		446	461
GIARDIASIS	23	22	13	47	58	47
GONORRHEA	413	357	212	1060	755	621
H. INFLUENZAE INVASIVE DISEASE	1	–	1	1	1	4
HEPATITIS Type A	24	17	23	40	51	46
HEPATITIS Type B	6	13	5	12	23	8
HEPATITIS Non A - Non B			1			1
LISTERIOSIS	1	–	1	1	1	3
LYME DISEASE						
MALARIA	2	2	–	3	5	1
MEASLES		1	1		1	1
MENINGOCOCCAL INFECTIONS	1	1	2	5	2	4
PELVIC INFLAMMATORY DISEASE		40	18		72	47
PERTUSSIS	–		1	1		2
RUBELLA						
SALMONELLOSIS	14	13	25	32	31	43
SHIGELLOSIS	29	15	22	65	36	48
SYPHILIS, Total	48	72	61	101	158	126
SYPHILIS, Primary & Secondary	10	27	21	29	66	50
TUBERCULOSIS	23	20	25	44	45	56
TYPHOID FEVER			–			1
TOTAL DEATHS REPORTED THIS PERIOD		734	690		1496	1613
Deaths from pneumonia and influenza		28	21		63	63
Medical Examiner cases		134	135		312	312
Drug-related cases		22	13		41	28
Cocaine-related cases		7	5		16	10

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Vol. 7, No. 5 May 1991

IN THIS ISSUE: Homeless deaths in San Francisco

Homeless deaths in San Francisco 1985–1990

The San Francisco Medical Examiner's records from 1/1/85 to 12/31/90 were reviewed. Medical Examiner (ME) cases were classified as "homeless" if, after an investigation, no residence could be established or if the residence listed was a homeless shelter or one of the single room occupancy (SRO) hotels used by the San Francisco Department of Social Services to temporarily house homeless people. This methodology has been consistent in the study period, but would miss homeless people who obtained a residence prior to their death as well as some of those hospitalized at the time of death. The ME is appointed by law to investigate and certify all deaths of other than natural causation and any apparently natural deaths in which no physician can reasonably state the cause (see Appendix 1 for a full description of ME cases).

Results. In the 6-year period of 1985 through 1990, 644 homeless deaths were found by review of ME records (Table 1). The yearly total ranged from 92 in 1986 to 126 in 1987, with a mean of 107. In 1990 there were 93. Men made up 88% of the deaths and women 12%. The ethnic distribution was White 68%, African-American 24%, Latino 4%, Asian 1%, Native American 2%, and 1% were undetermined. The average age at death was 41 $\pm$12 years.

Location of death. Thirty-five percent of the deaths occurred outdoors; this included persons found on the street or sidewalk, in parks, and other outdoor areas. An emergency room, usually San Francisco General Hospital, or a hospital was the site for 24% of deaths. Approximately half of those individuals were probably dead when they were found, but were transported to the emergency room by ambulance where they were declared dead (personal communication, SFME). Twenty-one percent were found in a building, usually a SRO hotel where they were not resident, or an abandoned building. Fourteen percent were found in a SRO hotel where they were resident, and 5% were found in vehicles, usually cars or pickups with a camper shell, in which they had lived. Overall, death most often occurred in San Francisco's South of Market area or the Tenderloin.

Mode of death. The mode of death is determined by the ME to be natural, accidental, homicide, suicide or undetermined. Two hundred fifty-four (39%) of the homeless deaths were determined to be natural for an average annual crude death rate of 705 per 100,000, assuming a population of 6,000 homeless. Of the remaining 390 homeless deaths, 216 (34%) were accidental, 81 (13%) were homicides, 36 (6%) were suicides and 57 (9%) were undetermined (Figure 1). These represent average annual crude death rates per 100,000 of 600, 225, and 100, respectively for accident, homicide, and suicide.

Cause of death. The assigned causes of death are shown in Table 1. Alcoholism includes only deaths attributable directly to alcoholic cirrhosis and other alcohol-related diseases, not those with the presence of alcohol in the blood or evidence of alcoholic liver disease which was not the cause of death.

Most homeless deaths (78%) were associated with either drugs or alcohol (Table 2). Their presence is not necessarily the cause of death, but this finding shows that alcohol and/or drug use is common in homeless people who died. Fatty liver and micronodular cirrhosis are associated with chronic alcoholism and indicate long-term heavy consumption of alcohol. One or the other or both were present in 39% of all deaths. An ethyl alcohol level $\geq$0.1% was considered legally intoxicated in the state of California until 1990; this has now been reduced to $\geq$0.08%. Using $\geq$0.1% as the case definition, one third of all who died were legally intoxicated at the time of death.

Fifty-five percent of all deaths had findings of alcoholic liver disease or alcohol levels ≥0.1%. Evidence of alcohol use or disease remained relatively stable during the 6 years.

Morphine, the break down product of heroin, was the most common illicit drug found (21% of all deaths). Cocaine was found in 14% and amphetamines ("speed") in 8%. Drug use has increased over the 6 years (Table 2), with the largest increase in cocaine. In 1985 the cases in which cocaine, amphetamines, and morphine were found were 4%, 4%, and 19% respectively; in 1990 they were 22%, 13%, and 30%.

Editorial Note: This review suggests that the average homeless person who died in San Francisco was a white man in his early 40s, with evidence of drug or alcohol abuse. It further suggests that 61% of homeless deaths are from other than natural causes. However, homeless individuals who died of natural causes while hospitalized would have been missed, and their number is not known. Reviews of ME or Coroner's cases introduce a selection bias that over emphasizes violent deaths such as homicides, suicides, or substance abuse-related deaths. The study also suggests that the homeless may have a higher overall rate of death than SF residents. The all-cause mortality for the homeless in 1988 was estimated at 15 deaths per 1,000 population. For San Francisco residents the rate was 11.5. The rate for SF residents aged 25-44 was 4.7. Homeless deaths missed because of hospitalization would increase the disparity. The official estimate by the Homeless Program of the homeless population in San Francisco is 6,000. Other estimates range from 2 to 3 times that amount. Comparing rates of homicide and suicide to that of the general San Francisco population suggest that a homeless person has a much greater chance of dying by those modes. The previously mentioned selection bias does not apply in this comparison because all homicides and suicides are, by definition, coroner's cases.

Death from AIDS/ARC was uncommon among the homeless in this review. Homeless persons with advanced human immuno-deficiency virus (HIV) disease are eligible for entitlements which include housing, financial support, and MediCal health benefits. Homeless persons with AIDS/ARC may move into housing, a hospice, or nursing home prior to death and would not be counted as homeless or a ME case. Postmortem HIV testing is not routinely done by the ME so the rate of infection among homeless who died is not known. HIV infection may contribute to some of the deaths, but would not be evident from the toxicology or autopsy results. Other sources of data which include indigent burial records indicate an increase in the number of AIDS deaths among homeless people.

The findings of this report demonstrate a need for increased substance abuse services and outreach services tailored to the special needs of the homeless. When such services are available, adequate and accessible, the rate of death should decline.

It is important to remember that this study has a marked selection bias since it includes only the homeless who died and whose deaths were unattended or violent. Therefore, while the subjects of the study are primarily males in their forties who used drugs and/or abused alcohol, this is not a description of the homeless population as a whole, but of a subset.

Reported by Health Care for the Homeless Program.

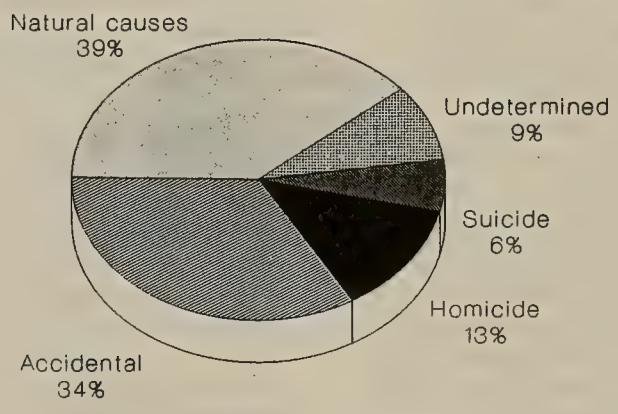

Figure 1. Homeless deaths in San Francisco

Table 1. Homeless deaths by gender and detailed cause by year, San Francisco, 1985–1990.

	1985	1986	1987	1988	1989	1990	6 Year Total	% of Total
Total Deaths by Year	112	92	126	125	96	93	644	
Male	95	74	106	114	88	77	566	87.9%
Female	15	18	15	11	8	11	78	12.1%
		Detailed Cause of Death						
Natural, total	48	37	50	51	36	32	254	39.4%
Alcoholism	18	4	14	25	20	14	95	
Heart Disease	16	13	17	12	7	11	76	
Pneumonia	5	5	7	5	5	1	28	
COPD	2	4	3	2	1	1	13	
other	7	11	9	7	3	5	42	
Accident, total	31	33	29	38	42	43	216	33.6%
Polypharmacy	19	20	18	30	33	35	155	
Trauma	9	8	6	3	9	6	41	
Hypothermia	3	0	1	0	0	1	5	
other	0	5	4	5	0	1	15	
Homicide, total	12	13	22	15	7	12	81	12.6%
Stabwound	4	3	10	6	3	4	30	
Gunshotwound	3	3	2	5	1	6	20	
other	5	7	10	4	3	2	31	
Suicide, total	9	1	6	10	6	4	36	5.6%
Overdose	2	0	0	1	0	0	3	
Bridge	2	0	3	1	4	0	10	
Gunshotwound	1	1	1	1	2	1	7	
Hanging	1	0	2	5	0	1	9	
other	3	0	0	2	0	2	7	
Undetermined	12	8	19	11	5	2	57	8.9%

Table 2. Alcohol and drug findings in homeless deaths, San Francisco, 1985–1990.

	1985	1986	1987	1988	1989	1990	Total 1985-1990	% of Cases with Finding
Total Deaths	112	92	126	125	96	93	644	
Alcohol Present	53	48	59	58	38	49	305	47%
Alcohol Level ≥ 0.1%	38	16	43	47	29	43	216	34%
Fatty Liver or Alcoholic Cirrhosis	48	45	49	57	34	43	276	43%
Alcoholic Liver Disease or ≥0.1%	62	51	66	75	43	60	357	55%
Cocaine	5	7	22	18	19	22	93	14%
Amphetamine	5	6	8	11	10	13	53	8%
Morphine	21	19	10	27	30	30	137	21%
Any Drug *	30	28	33	46	43	43	223	35%
No Drug *	82	64	93	79	43	50	411	64%
Alcohol†, Alcoholic Liver Disease, or Drug Finding	87	77	92	101	66	80	503	78%
No Alcohol or Drug Findings	25	15	34	24	30	13	141	22%

* excludes alcohol

† alcohol present ≥ 0.1

Alcoholic Liver Disease refers to the presence of Fatty Liver or Alcoholic Cirrhosis

APPENDIX I

Description of Medical Examiner's Case

The Medical Examiner–Coroner is appointed by law to many responsibilities, the foremost of which is the investigation and certification of a variety of deaths including all deaths of other than natural causation, and any apparently natural deaths in which no physician can reasonably state the cause. The Medical Examiner can utilize any and all medico–legal investigative techniques, including autopsy, to establish both the medical cause of death, and mode or circumstances of death (natural, accident, homicide, suicide or undetermined).

The deaths which must be reported to the Medical Examiner–Coroner, as required by various sections of the Government, Health and Safety, and Penal codes, are as follows:

1. Homicide – known or suspected.
2. Suicide – known or suspected.
3. Following accident or injury (whether the accident or injury is the primary cause or contributory, with death occurring immediately or at some remote time).
4. Medical attendance of less than 20 days.
5. No physician in attendance.
6. Physician unable to state the cause of death (must be unable, not merely unwilling).
7. Poisoning (food, chemical, drug, therapeutic agents).
8. Occupational or industrial deaths.
9. All deaths where a patient has not fully recovered from an anesthetic, whether in surgery, recovery room, or elsewhere.
10. All deaths in operating rooms.
11. All solitary deaths (unattended by physicians or other person in the period immediately preceding death).
12. All deaths in which the patient is comatose throughout the period of the physician's attendance.
13. All deaths of unidentified persons.
14. All deaths where there are grounds to suspect that the death occurred in any degree from a criminal act.
15. All deaths involving contagious disease – known or suspected – and constituting a public health hazard.
16. Deaths in prison or while under sentence.
17. All deaths associated with a rape – known or alleged – or crime against nature.
18. All deaths related to or following abortion – known or suspected.
19. All deaths involving drowning, fire, hanging, gunshot, stabbing, cutting, starvation, exposure, alcoholism, drug addiction, strangulation or aspiration.

From Annual Report 7/1/89 - 6/30/91
Chief Medical Examiner - Coroner
City and County of San Francisco, California

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING March 30, 1991

DISEASE	CASES REPORTED WEEKS 10 THROUGH 13			TOTAL CASES REPORTED TO DATE		
	1989	1990	1991	1989	1990	1991
AIDS	177	174	174	464	565	530
AMEBIASIS	15	21	31	51	64	84
CAMPYLOBACTERIOSIS	33	41	67	142	129	169
CHANCROID		7	–		13	2
CHLAMYDIAL INFECTIONS		246	274		692	735
GIARDIASIS	32	18	25	79	76	72
GONORRHEA	376	326	278	1436	1081	899
H. INFLUENZAE INVASIVE DISEASE	6	2	–	7	3	4
HEPATITIS Type A	12	21	18	52	72	64
HEPATITIS Type B	12	18	12	24	41	20
HEPATITIS Non A - Non B		1	–		1	1
LISTERIOSIS	–	3	4	1	4	7
LYME DISEASE						
MALARIA	4	1	–	7	6	1
MEASLES		5	–		6	1
MENINGOCOCCAL INFECTIONS	–	–	–	5	2	4
PELVIC INFLAMMATORY DISEASE		41	20		113	67
PERTUSSIS	–		–	1		2
RUBELLA						
SALMONELLOSIS	16	8	17	48	39	60
SHIGELLOSIS	34	22	30	99	58	78
SYPHILIS, Total	60	74	70	161	232	196
SYPHILIS, Primary & Secondary	20	36	22	49	102	72
TUBERCULOSIS	23	27	22	67	72	78
TYPHOID FEVER	2		1	2		2

TOTAL DEATHS REPORTED THIS PERIOD	676	684		2172	2297
Deaths from pneumonia and influenza	29	29		92	92
Medical Examiner cases	144	104		456	416
Drug-related cases	31	23		72	51
Cocaine-related cases	12	12		28	22

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

Vol. 7, No. 6 June 1991

IN THIS ISSUE: *A comparison of reported Campylobacter, Salmonella, Shigella cases*

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A comparison of reported Campylobacter, Salmonella, Shigella cases in San Francisco, 1986–1990

Data are available for the years 1986–1990. Salmonella and Shigella infections have been reportable by both physicians and laboratories for the entire five year period. Campylobacter infections were placed on the state list in March 1989 as reportable by physicians but not laboratories. However, San Francisco had requested that Campylobacter infections be reported for the entire five year period.

Data will be examined separately for pre-school children and others.

Tables 1 and 2 show the racial distribution of cases in children less than six years old. Twenty-six percent of Salmonella cases, 10% of Shigella cases and 13% of Campylobacter cases occurred in this age group. Approximately 5–6% of the population falls into this age group (Department of Finance population estimate for 1990). Fifty percent of Salmonella cases, 26% of Campylobacter cases and 12% of Shigella cases in this group were in children less than one year. Fifty-one percent of Salmonella cases and 52% of Shigella cases in children less than six were of Asian/Pacific Islander descent or Latino origin respectively. Only five percent of Campylobacter cases in children less than six were African-American.

Age and sex adjusted incidence of all three infections are shown in Figures 1–3. Age-specific incidence for 20–39 year olds are shown in Figures 4 and 5.

Table 3 shows some specific risk factor information for the three infections. Information regarding sexual orientation is available only for 1990.

A history of foreign travel was associated with 14%, 9% and 6% of Shigella, Salmonella and Campylobacter cases respectively. For 1990 58% of adult male cases of shigellosis occurred in males known to be homosexual, 22% and 19% of adult male cases of salmonellosis and campylobacteriosis, respectively, were in males known to be homosexual. For males known to be heterosexual the percentage was shigellosis 12%, salmonellosis 24%, campylobacteriosis 21%.

Table 1. Numbers of reported cases in children ≤5 years in San Francisco 1986–1990.

	White	African-American	Asian	Latino	Unk	Total
Salmonella	36	39	128	32	17	252
Shigella	18	33	18	93	20	182
Campylobacter	78	19	79	93	87	356

Table 2. Numbers of reported cases in children ≤1 year in San Francisco 1986–1990.

	White	African-American	Asian	Latino	Unk	Total
Salmonella	12	23	59	18	13	125
Shigella	1	5	0	14	1	21
Campylobacter	18	10	15	27	21	91

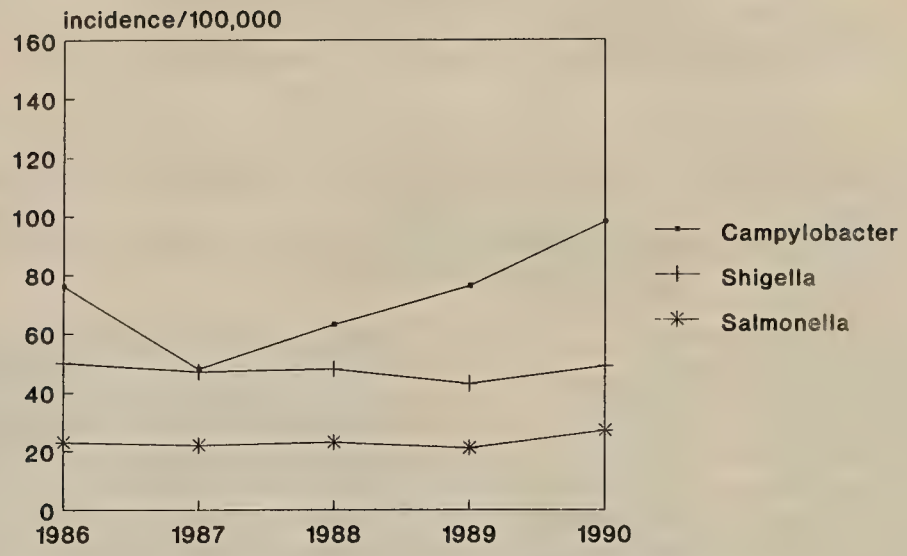

Figure 1. Age and sex adjusted incidence of various enteric infections, San Francisco 1986–1990.

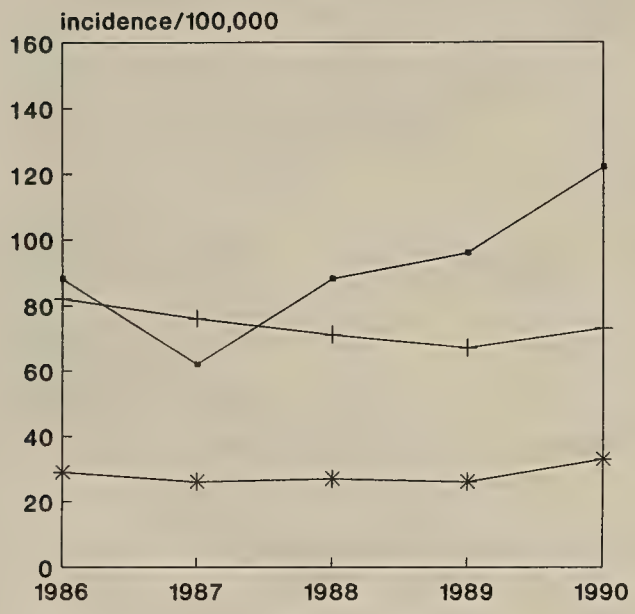

Figure 2. Age adjusted incidence of various enteric infections: males, San Francisco 1986–1990.

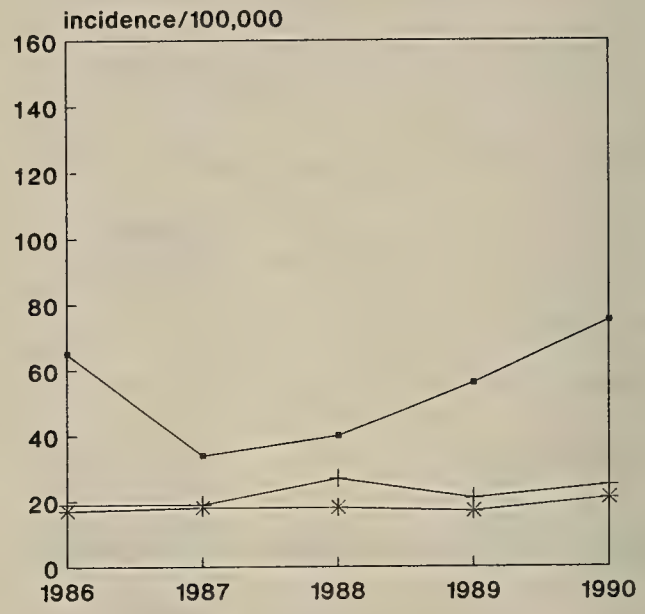

Figure 3. Age adjusted incidence of various enteric infections: females, San Francisco 1986–1990.

Table 3. Presence of specific risk factors: San Francisco 1986–1990.

	Campylobacter	Salmonella	Shigella
History of foreign travel	1172/2740 = 6%	85/960 = 9%	271/1885 = 14%
Males >19 years who have sex with males	67/349 = 19%	18/83 = 22%	127/218 = 58%

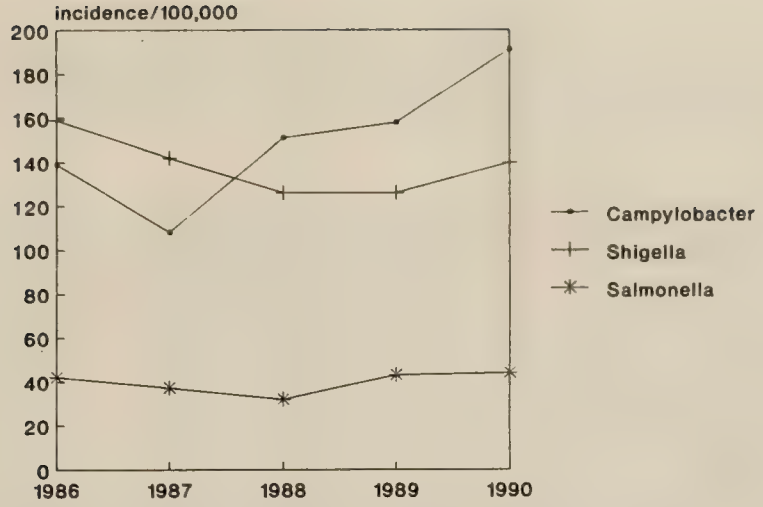

Figure 4. Age specific incidence of various enteric infections: males, 20–39 San Francisco 1986–1990.

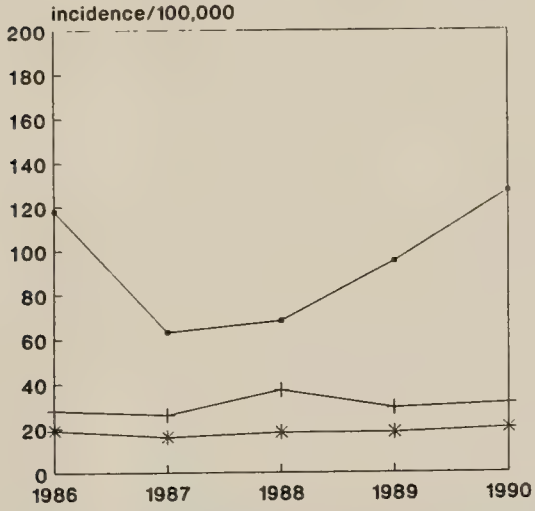

Figure 5. Age specific incidence of various enteric infections: females, 20–39 San Francisco 1986–1990.

Editorial Note: Differences between the reporting systems for Campylobacter and the other two infections over time and by source of reports probably play a role in some of the variation seen. However, there are basic differences which are more probably due to differences in epidemiology. Children less than six are a significant risk group for all 3 infections but there are major differences between infections seen in this group. Shigella and Campylobacter infections are generally distributed throughout the age group but Salmonella infections are much more common in younger children. It is not unusual to find salmonellosis in a child whose only food is formula, sometimes breast milk. Asians and Latinos are over-represented in salmonellosis and shigellosis respectively in children less than six. Fifty-one percent of Salmonella cases less than six and 28% of the 1980 population less than six are Asian. Fifty-one percent of shigella cases less than six and 21% of the 1980 population less than six are Latino. Five percent of Campylobacter cases less than six and 19% of the 1980 population less than six are African-American. Clearly some sort of differences are present related to food preparation and handling and/or feeding of young children. It is also possible that the human reservoir of infection differs by race.

Males often have higher incidence rates for communicable diseases and these three enteric infections are no different. However, the incidence rates of shigellosis for males, particularly young adults, are unusually high. Sexual transmission of infection by homosexual males probably makes a significant contribution to this incidence.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING April 27, 1991

DISEASE	CASES REPORTED WEEKS 14 THROUGH 17			TOTAL CASES REPORTED TO DATE		
	1989	1990	1991	1989	1990	1991
AIDS	209	198	173	673	763	703
AMEBIASIS	22	25	23	73	89	107
CAMPYLOBACTERIOSIS	47	49	37	189	178	206
CHANCROID		6	–		19	2
CHLAMYDIAL INFECTIONS	113	195	196	459	887	931
GIARDIASIS	23	30	39	102	106	111
GONORRHEA	391	316	260	1827	1397	1159
H. INFLUENZAE INVASIVE DISEASE	7	3	1	14	6	5
HEPATITIS Type A	23	21	15	75	93	79
HEPATITIS Type B	5	13	3	29	54	23
HEPATITIS Non A - Non B		1	–		2	1
LISTERIOSIS	2	1	1	3	5	8
LYME DISEASE						
MALARIA	8	2	1	15	8	2
MEASLES	1	11	–	1	17	1
MENINGOCOCCAL INFECTIONS	3	–	–	8	2	4
PELVIC INFLAMMATORY DISEASE		20	16		133	83
PERTUSSIS	–		1	1		3
RUBELLA		1			1	
SALMONELLOSIS	14	12	8	62	51	68
SHIGELLOSIS	43	32	20	142	90	98
SYPHILIS, Total	61	73	57	222	305	253
SYPHILIS, Primary & Secondary	26	33	15	75	135	87
TUBERCULOSIS	20	25	24	87	97	102
TYPHOID FEVER	2	1		4	1	2
TOTAL DEATHS REPORTED THIS PERIOD	684	678		2856	2975	
Deaths from pneumonia and influenza	28	17		120	109	
Medical Examiner cases	123	124		579	540	
Drug-related cases	19	18		91	69	
Cocaine-related cases	7	7		35	29	

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC HEALTH
BUREAU OF EPIDEMIOLOGY AND DISEASE CONTROL

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

Vol. 7, Supplement 1 June 1991

IN THIS ISSUE:

- *Hepatitis B epidemiology*
- *Perinatal hepatitis B guidelines*
- *HBIG and HB vaccine dosage schedule*

PERINATAL TRANSMISSION OF HEPATITIS B

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This Supplement includes:

- basic overview of hepatitis B epidemiology
- summary of the new law, SB2691 (Chapter 1376, Statutes of 1990) mandating screening of all pregnant women for hepatitis B infection
- description of Bureau of Epidemiology and Disease Control (BEDC) program to work with providers in the prevention of perinatal hepatitis B
- chart detailing the schedule of administration of hepatitis B vaccine and hepatitis B immune globulin (HBIG) (Table 1) to infants

Portions of this text were excerpted and adapted from two sources:
Centers for Disease Control. Protection Against Viral Hepatitis: Recommendations of the Immunization Practices Advisory Committee (ACIP). MMWR 1990;39(RR-2):1-26.

The State of California, Department of Health Services. Provider Information Notice #91-1. January 14, 1991.

HEPATITIS B NOMENCLATURE

Abbreviation	Term	Definition/Comments
HBV	Hepatitis B Virus	Etiologic agent of "serum" hepatitis; also known as Dane particle.
HBsAg	Hepatitis B surface antigen	Surface component(s) of HBV detectable in large quantities in serum, which induce the formation of antibodies. Earliest indicator of acute infection and may indicate chronic infection.
HBeAg	Hepatitis B e antigen	Soluble antigen; correlates with HBV replication, high titer HBV in serum, and infectivity of serum.
HBcAg	Hepatitis B core antigen	No commercial test available.
Anti-HBs	Antibody to HBsAg	Indicates prior infection with and immunity to HBV, passive antibody from HBIG, or immune response from HB vaccine. Also indicates clinical recovery. Confers immunity to HBV; no vaccination required.
Anti-HBe	Antibody to HBeAg	Presence in serum of HBsAg carrier indicates lower titer of HBV.
Anti-HBc	Antibody to HBcAg	Indicates prior infection with HBV at some undefined time.
IgM anti-HBc	IgM class antibody to HBcAg	Indicates recent infection with HBV; detectable for 4-6 months after infection.

HEPATITIS B: AN OVERVIEW

Hepatitis B infection is caused by the hepatitis B virus (HBV). The incubation period of hepatitis B is long (45–160 days, average 120), and the onset of acute disease is generally insidious. Clinical symptoms and signs may include anorexia, malaise, nausea, vomiting, abdominal pain and jaundice. Extrahepatic manifestations of disease – such as skin rashes, arthralgias, and arthritis – can also occur. The case-fatality rate for hospitalized cases in the United States is approximately 1.4%.

HBV carriers are central to the epidemiology of HBV transmission. A carrier is defined as a person who is either HBsAg-positive on at least two occasions (at least 6 months apart) or who is HBsAg-positive and IgM anti-HBc negative when a single serum specimen is tested. Although the degree of infectivity is best correlated with HBeAg-positivity, any person positive for HBsAg is potentially infectious. The likelihood of becoming a chronic HBV carrier varies inversely with the age at which infection occurs. HBV transmitted from HBsAg-positive mothers to their newborns results in HBV carriage for up to 90% of infants. Between 25% and 50% of children infected before 5 years of age become carriers, whereas only 6%–10% of acutely infected adults become carriers.

Persons infectious with hepatitis B have the highest concentrations of HBV in blood and serum-derived fluids. Although lower concentrations of HBV are present in saliva, semen and vaginal fluids, they are also infectious. Transmission occurs through percutaneous or permucosal routes, and exposure to infectious blood or body fluids can occur at birth, during sexual contact, or through use of contaminated needles. Infection can also occur in settings of continuous close personal contact (such as in the household, or among clients and staff in institutions for the developmentally disabled), probably from unnoticed contact between infective secretions and skin lesions or mucosal surfaces. Transmission of infection by transfusion of blood or blood products is rare in the United States because of routine screening of blood for HBsAg and because of current donor selection procedures.

Worldwide, HBV infection is a major cause of acute and chronic hepatitis, cirrhosis, and primary hepatocellular carcinoma. The frequency of HBV infection and patterns of transmission vary markedly in different parts of the world. In the United States, Western Europe, and Australia, it is a disease of low endemicity, with infection occurring primarily during adulthood and with only 0.2%–0.9% of the population being chronic carriers. In contrast, HBV infection is highly endemic in China and Southeast Asia, most of Africa, most Pacific Islands, parts of the Middle East, and in the Amazon Basin. In these areas, most persons acquire infection at birth or during childhood, and 8%–15% of the population are chronically antigenemic. In other parts of the world, HBV infection is moderately endemic, with 2%–7% of the population being HBV carriers. Prevention strategies for populations in which HBV infection is highly endemic are directed at vaccinating infants with hepatitis B vaccine, usually beginning at birth, to prevent both perinatal and childhood transmission of infection (1).

HEPATITIS B VIRUS INFECTION IN THE UNITED STATES

Each year, an estimated 300,000 persons, primarily young adults, become infected with HBV. Of this total number, approximately one-quarter (75,000) develop jaundice, more than 10,000 patients require hospitalization, and an average of 250 die of fulminant disease. It is estimated that there are currently 750,000–1,000,000 infectious carriers in the United States. Approximately 25% of carriers develop chronic active hepatitis, which often progresses to cirrhosis. Furthermore, HBV carriers have a risk of developing primary liver cancer that is 12–300 times higher than that of other persons. An estimated 4,000 persons die each year from hepatitis B-related cirrhosis, and more than 800 die from hepatitis B-related liver cancer.

Serologic surveys demonstrate that although HBV infection is uncommon among adults in the general population, it is highly prevalent in certain groups. Those at high risk for acquiring HBV infection, based on the prevalence of serologic markers, are as follows:

1) Persons born in areas of high HBV endemicity; their descendants; and highly HBV-endemic populations – Alaskan Natives and Pacific Islanders.
2) Gay men.
3) Persons who have sexual activity with multiple partners.
4) Intravenous drug users.
5) Inmates of prisons, usually because of

parenteral drug use before or during incarceration.
6) Patients in custodial institutions for the developmentally disabled.
7) Household contacts and sexual partners of HBV carriers
8) Hemodialysis patients and recipients of certain plasma-derived products that have not been inactivated (e.g., antihemophilic factor).
9) Persons with occupational risks including medical and dental workers, related laboratory and support personnel, and public service employees who have contact with blood, as well as staff in institutions or classrooms for the developmentally disabled.

PERINATAL TRANSMISSION OF HBV

Transmission of HBV from mother to infant during the perinatal period represents one of the most efficient modes of HBV infection and often leads to severe long term sequelae. Infants born to mothers who are both HBsAg-positive and HBeAg-positive have a 70%-90% chance of acquiring perinatal HBV infection, and 85%-90% of infected infants will become chronic HBV carriers. It is estimated that more than 25% of these carriers will die from primary hepatocellular carcinoma or cirrhosis of the liver (2). Infants born to mothers who are HBsAg-positive but HBeAg-negative have a lower risk of acquiring perinatal infection; however, such infants have had acute disease, and fatal fulminant hepatitis has been reported (3,4).

Based on national data for 1987, an estimated 18,000 births occur to HBsAg-positive women each year, resulting in approximately 4,000 infants who become chronic HBV carriers. The California State Department of Health Services projects that over 7,000 infants will be born in California during 1991 to mothers who are carriers of hepatitis B. This number represents over one-quarter of all births to hepatitis B carrier mothers in this country. Without appropriate prophylaxis, approximately 35%-40% of these infants will become chronic hepatitis B carriers, posing a lifelong threat of infection to their household contacts, sex partners, children and and medical care providers. Twenty-five percent of these carriers will die, usually in mid-adulthood, from complications of hepatitis B infection (5).

The cycle of HBV infection from mother to infant can be interrupted by immunization of the infant, beginning at birth. Newborns of HBsAg-positive mothers can be treated with HBIG and hepatitis B vaccine, a regimen that is 85%-95% effective in preventing the development of the HBV carrier state. Hepatitis B immune globulin (HBIG) and hepatitis B vaccine are administered at birth and vaccine boosters are administered at one and six months of age (Table 1).

A neonatal hepatitis B immunization program begins with the identification of infants at risk by screening pregnant mothers. Previous United States Public Health Immunization Practices Advisory Committee (ACIP) guidelines recommended that health providers assess a woman's risk for contracting HBV infection by obtaining information from the woman about designated high risk factors which included a history of intravenous drug use or being of Asian, Pacific Island, or Alaskan Eskimo descent. However, several recent hospital studies, found that this screening strategy failed to identify 35%-65% of HBsAg-positive mothers (6-10). Consequently, ACIP revised its guidelines (see below) in June 1988, and now recommends universal screening of all pregnant women to prevent perinatal transmission of hepatitis B infection. Furthermore, the State of California requires by law that all pregnant women be screened for hepatitis B infection.

UNITED STATES PUBLIC HEALTH IMMUNIZATION PRACTICES ADVISORY COMMITTEE GUIDELINES:

1. All pregnant women should be routinely tested for HBsAg during an early prenatal visit in each pregnancy. This testing should be done at the same time that other routine prenatal screening tests are ordered. In special situations (e.g., when acute hepatitis is suspected, when a history of exposure to hepatitis has been reported, or when the mother has a particularly high-risk behavior, such as intravenous drug use), an additional HBsAg test can be ordered later in pregnancy. No other HBV marker tests are necessary for the purpose of maternal screening, although HBsAg-positive mothers identified during screening may have HBV-related acute or chronic liver disease and should be evaluated by their physicians.

2. If a woman has not been screened prenatally or if test results are not available at the time of admission for delivery, HBsAg testing should be done at the time of admission, or as soon as possible thereafter.

3. Following all initial positive tests for HBsAg, a repeat test for HBsAg should be performed on the same specimen, followed by a confirmatory test using a neutralization assay. For women in labor who did not have HBsAg testing during pregnancy and who are found to be HBsAg-positive on first testing, initiation of treatment of their infants should not be delayed by more than 24 hours for repeat or confirmatory testing.

4. Infants born to HBsAg-positive mothers should receive HBIG (0.5 ml) intramuscularly once they are physiologically stable, within 12 hours of birth (Table 1). Hepatitis B vaccine should be administered intramuscularly at the appropriate infant dose. The first dose should be given concurrently with HBIG but at a different site. If vaccine is not immediately available, the first dose should be given as soon as possible. If the mother is identified as HBsAg-positive >1 month after giving birth, the infant should be tested for HBsAg. If the results are negative, the infant should be given HBIG and hepatitis B vaccine. Subsequent doses should be given as recommended for the specific vaccine. Testing infants for HBsAg and anti-HBs is recommended when they are 12-15 months of age to monitor the success or failure of therapy. If HBsAg is not detectable and anti-HBs is present, children can be considered protected. Testing for anti-HBc is not useful since maternal anti-HBc can persist for >1 year. HBIG and hepatitis B vaccination do not interfere with routine childhood vaccinations. Breast-feeding poses no risk of HBV infection for infants who have begun prophylaxis.

5. Household members and sexual partners of HBV carriers identified through prenatal screening should be tested to determine susceptibility to HBV infection, and, if susceptible, they should receive hepatitis B vaccine.

6. Obstetric and pediatric staff should be notified directly about HBsAg-positive mothers so that neonates can receive therapy without delay after birth, and follow-up doses of vaccine can be given. Programs to coordinate the activities of persons providing prenatal care, hospital-based obstetrical services, pediatric well-baby care and general practice physicians must be established to assure proper followup and treatment both of infants born to HBsAg-positive mothers and of other susceptible household and sexual contacts.

7. In those populations under United States jurisdiction in which hepatitis B infection is highly endemic (including certain Alaskan natives, Pacific Island groups, and refugees from highly endemic areas accepted for resettlement in the United States), universal vaccination of newborns with hepatitis B vaccine is the recommended strategy for hepatitis B control. HBsAg screening of mothers and use of HBIG for infants born to HBV-carrier mothers may be added to routine hepatitis B vaccination when practical, but screening and HBIG alone will not adequately protect children from HBV infection in endemic areas. In such areas, hepatitis B vaccine doses should be integrated into the childhood vaccination schedule. More extensive programs of childhood hepatitis B vaccination should be considered if resources are available.

CALIFORNIA STATE LAW REQUIRING HEPATITIS B TESTING

The California State Department of Health Services has endorsed the ACIP guidelines outlined above and the State legislature has made it mandatory for all medical providers caring for pregnant women to test them for hepatitis B surface antigen. Newborns of identified HBsAg-positive pregnant women can be protected from becoming infected with HBV through immunization.

The new legislation requiring testing, SB 2691 (Chapter 1376, Statutes of 1990), became effective on January 1, 1991. In accordance with this law, any licensed physician or other person providing prenatal care to a pregnant woman must obtain a blood specimen to determine the presence of HBsAg. The woman must be notified beforehand that a blood specimen will be obtained from her. If the blood specimen is not obtained prior to delivery, it must be obtained at the time of delivery. The specimen must be submitted to a licensed clinical laboratory or an approved public health laboratory.

HEPATITIS B CARRIER STATE: A REPORTABLE CONDITION

In the State of California, all persons found to be HBsAg-positive must be reported to the local health department. Physicians, laboratories, hospitals and other health professionals learning of a hepatitis B carrier residing in the City and County of San

Francisco must report the case to the Bureau of Epidemiology and Disease Control (BEDC). Reports can be made either by calling 554-2840 or mailing a Confidential Morbidity Report card (CMR card), available on request at the same telephone number.

SAN FRANCISCO PERINATAL HEPATITIS B PROGRAM

Hepatitis B screening, HBIG and vaccine are available for all infants and household contacts of women found to be HBV carriers. These services are offered through the Public Health Centers listed below and are also covered by Medi-Cal.

Health Center #3
1525 Silver Avenue
468-3664

Health Center #4
1490 Mason Street
558-3158

Mission Neighborhood Health Center
240 Shotwell Street
552-3870 ext. 246

Native American Health Center
56 Julian Avenue
631-8051

Northeast Medical Services
1520 Stockton Street
391-9686

Potrero Hill Health Center
1050 Wisconsin Street
648-3022

San Francisco General Hospital
1001 Potrero Avenue
821-8351

Southeast Health Center
2401 Keith Street
822-2850

All reported cases of pregnant hepatitis B carriers will be followed up to assure that their infants and household contacts receive appropriate treatment.

The BEDC has initiated a media campaign, using inside Muni bus placards, to encourage pregnant women to seek prenatal care and hepatitis B screening. Additional promotional materials include a resource referral manual (developed in conjunction with the United Way) and informational pamphlets in English, Chinese and Spanish languages.

For additional information and reporting of hepatitis B carriers and cases, contact the BEDC Hepatitis B Coordinator at 554-2840.

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Table 1

Recommended Schedule and Dosage of HBIG and Hepatitis B Vaccine for Newborns of Mothers Testing Positive for HBsAg

Infant's Age	Recommended Protection by the Immunization Practices Advisory Committee (ACIP)
At Birth, or within 12 hours	HBIG (0.5 ml) IM
At Birth, or within 12 hours	Hepatitis B Vaccine (0.5 ml) IM Given concurrently with HBIG, but at a different site.
1 Month	Hepatitis B Vaccine (0.5 ml) IM
6 Months	Hepatitis B Vaccine (0.5 ml) IM
12 -15 Months	Recommend testing infants for HBsAg and anti-HBs to monitor results of therapy. The absence of HBsAg and the presence of anti-HBs confirms protection.

Notes: 1. See manufacturer's instructions for directions and contraindications for HBIG and Hepatitis B Vaccine.
2. Hepatitis B vaccine may be provided through Medi-Cal reimbursement or to public health facilities free of charge for infants and household contacts. For more information call:

San Francisco Department of Public Health
Bureau of Epidemiology and Disease Control
554-2840

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

Vol. 7, No. 8 August 1991

IN THIS ISSUE: ***Injury mortality in San Francisco, 1986-1989,***
Influenza Vaccine, 1990-1992

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Injury mortality in San Francisco, 1986–1989

Introduction. From 1986 through 1989, injuries killed eleven San Franciscans in an average week. Injuries are the fifth leading cause of death in San Francisco. Nationally they are the fourth leading cause of death and a major public health problem, yet there is a great potential for preventing many of these deaths. This report presents a descriptive picture of injury mortality in San Francisco from 1986 through 1989.

Methods. Computerized abbreviated death certificate data files (by place of residence) were obtained for analysis from the Health Demographics Section, California Department of Health Services. Data available include gender, race, age, and coded cause of death. An injury death is one listing an injury as an underlying cause, as defined by the International Classification of Diseases – Ninth Revision (ICD–9), E–codes (external cause of injuries) 800–999. Deaths with an injury noted only as a contributing cause and not as an underlying cause are excluded. Modeling after the analysis by Rice, ***et al, (1)***, we have excluded codes E870–879 (misadventures to patients during surgical and medical care) and E930–949 (drugs, medical and biological substances causing adverse effects in therapeutic use), and have grouped by major external cause regardless of intent.

San Francisco population figures used for calculating rates were taken from available 1990 US Census data which does not yet include race/ethnicity exclusive numbers by age and sex. Because figures for Latino–exclusive race/ethnicity by gender were unavailable, these were estimated by applying the sex ratios of the Latino–inclusive race/ethnic figures to the available Latino–exclusive total race/ethnic figures. Such rates will be revised when the appropriate figures are available. Death rates were calculated as the number of deaths divided by the appropriate population and are unadjusted.

Results. There were 2,308 (7%) injury deaths among the 33,189 deaths of San Francisco residents from 1986 through 1989 (Figure 1). The leading causes of death ahead of injuries included heart disease, malignant neoplasms, AIDS, and cerebrovascular events (Figure 1). Deaths attributable to each major cause were relatively stable during the four years except for AIDS, which rose from 6.6% of all deaths in 1986 to 12.1% in 1989.

Poisoning was the leading cause of injury mortality in San Francisco, accounting for over 27% of these deaths. Following this were falls, firearms, motor vehicles, and drowning (Figure 1). The "other" category includes fires, burns, environmental factors, suffocation, hanging, blunt objects, and others. The poisoning attributable proportion of injury deaths increased significantly ($p < 0.001$) from 24% in 1986 to 33% in 1989, while that for falls and firearms decreased slightly (Figure 2). The overall injury death rate (deaths per 100,000 per year) is 79.7 in San Francisco and 60.1 in the United States. Similar comparisons suggest that the rate due to poisoning is more than four times higher in this city than in the United States overall, while the rate due to falls is more than twice as high, and the rate due to motor vehicles only half that in the United States (Figure 3) ***(1)***.

Males make up 74% of injury deaths and females 26%. Young adults (25–44 years) account for 43% of all injury deaths. The overall injury death rate for males is 118, a risk nearly three times higher than for females (41). With age, the rate rises for both sexes and is highest in the over 74 year age group. The gender differential is greatest in the 25–44 years age group where the risk is nearly four times greater for males than for females, followed by the 45–64 and the 15–24 years age groups where it is three times greater (Figure 4).

This disparity persists for each cause and is greatest for firearms, where males have a six-fold greater risk than females, and for poisoning, with a three-fold highest risk (Figure 5). The death rate from poisoning is greatest in the 25-44 year age group and 3.6 times greater in males than in females of that age group (Figures 6-7). Opiates and cocaine accounted for 28% and 18%, respectively, of all poisoning deaths. The risk from falls is greatest in the over 74 years age group, from firearms in the 15-24 year age group, and from motor vehicles in both the 15-24 years and the over 74 years age groups (Figure 6).

In comparison to the racial/ethnic distribution of the San Francisco population, African Americans are overrepresented in injury deaths, followed by whites (Figure 8). The risk of an injury death is highest for African Americans, four times greater than for the lowest risk race/ethnic group, Asians and Pacific Islanders (Figure 9). African American males have the greatest risk of injury death (231.8), but both African American and Latino males have a four-fold greater risk than their respective females. African Americans have the greatest risk from poisoning, firearms, and motor vehicles; whites have the greatest risk from falls; and Asian and Pacific Islanders show low rates from all causes (Figure 10).

Reported by the Bureau of Epidemiology and Disease Control.

Editorial note: The injury mortality patterns shown here highlight the fact that most injuries are not "accidents", and high risk groups can be identified and targeted for prevention efforts. The picture in San Francisco suggests that a "typical" injury death is one of a young adult male, white or African American, who died of poisoning that was very likely a drug overdose.

This is very different from the risk (or probability) of an injury death that different groups may have. Males have a higher risk than females; the older the person, the greater the risk; and African Americans are at great risk compared to other race/ethnic groups. Each major cause has its pattern of high risk groups. Poisoning is the biggest problem in San Francisco and young adult African American males are burdened with the highest risk. Falls are second in magnitude and those at highest risk are white males over 74 years of age. Third is firearms by which young (15-24 years) or old (over 74 years) African American males are most likely to die. Motor vehicles are fourth with the high risk groups being male, age 15-24 years or over 74 years, and African American.

The most striking difference between injury mortality in San Francisco and that in the United States is the reversal of poisoning and motor vehicles as the leading cause of death. This is likely due to San Francisco having patterns similar to other urban concentrations and the United States profile including a large rural component.

It must be noted that because mortality reflects the most serious injuries, they represent only a small portion, less than 1%, of the total injury picture of a community *(2)*. There is a need to study and describe the much larger morbidity picture from hospitalized or nonhospitalized injuries. Work will continue to monitor injury mortality in San Francisco and to include some measure of morbidity as well as intent. Such information should assist public and other agencies and the community in general to target prevention efforts so as to decrease the great costs in life and resources incurred from injuries by individuals and by San Francisco.

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Figure 1. Leading causes of death and injury death, San Francisco, 1986-1989

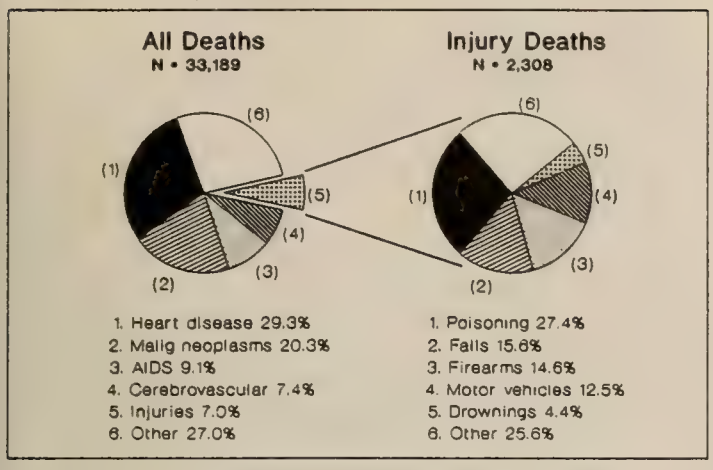


Figure 2. Injury deaths by cause and year, San Francisco

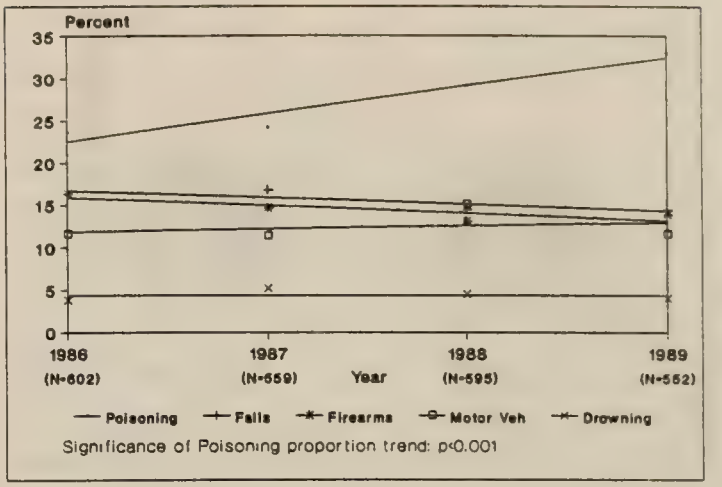


Figure 3. Injury death rates by cause, San Francisco, 1986-1989, and United States, 1985

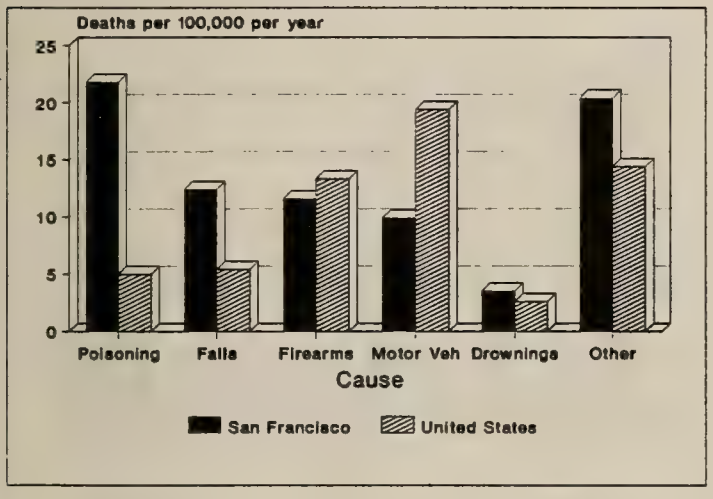


Figure 4. Injury death rates by sex and age, San Francisco, 1986-1989

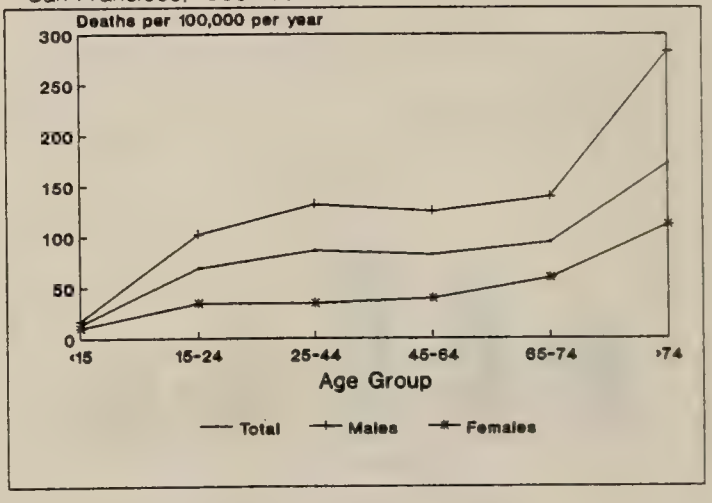


Figure 5. Injury death rates by sex and cause, San Francisco, 1986-1989

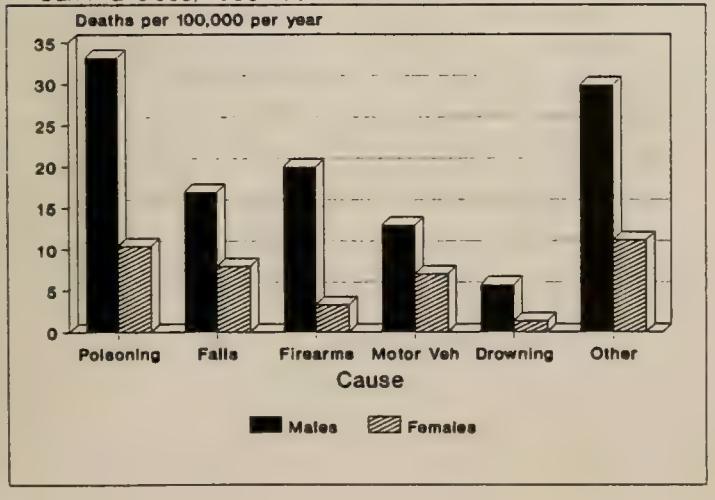


Figure 6. Injury death rates by cause and age, San Francisco, 1986-1989

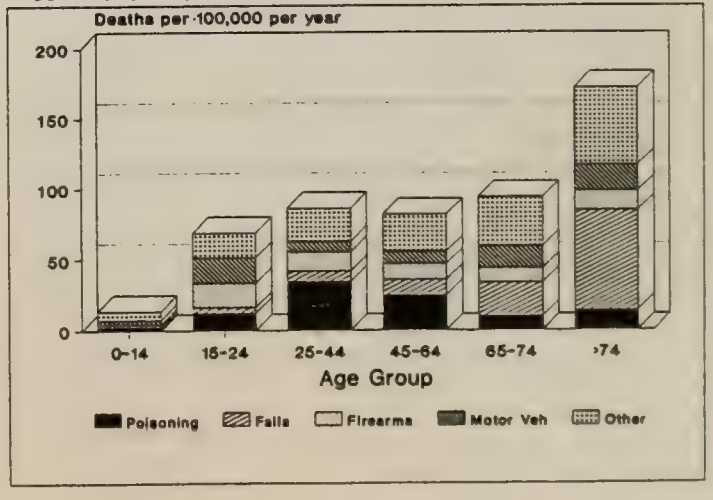


Figure 8. Distribution of injury deaths and population by race/ethnicity, San Francisco

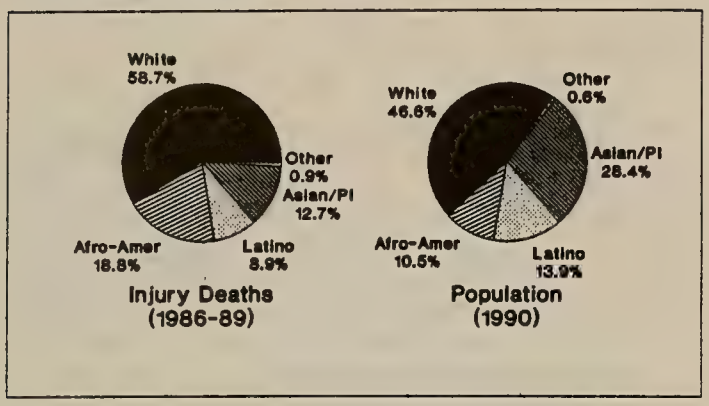


Figure 7. Poisoning death rates by sex and age, San Francisco, 1986-1989

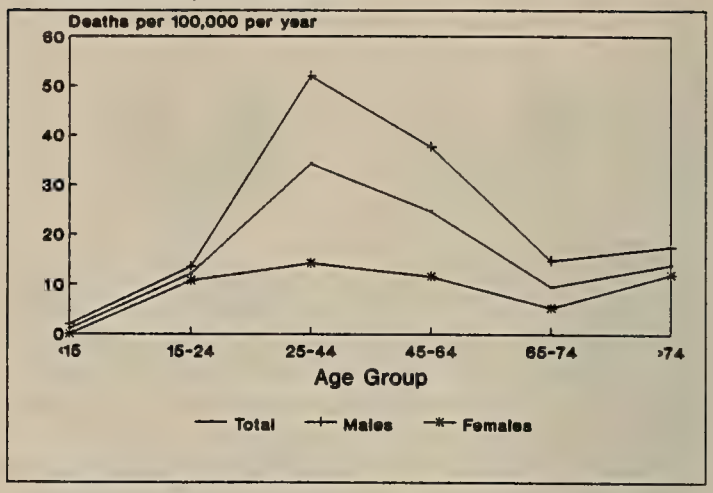


Figure 9. Injury death rates by sex and race, San Francisco, 1986-1989

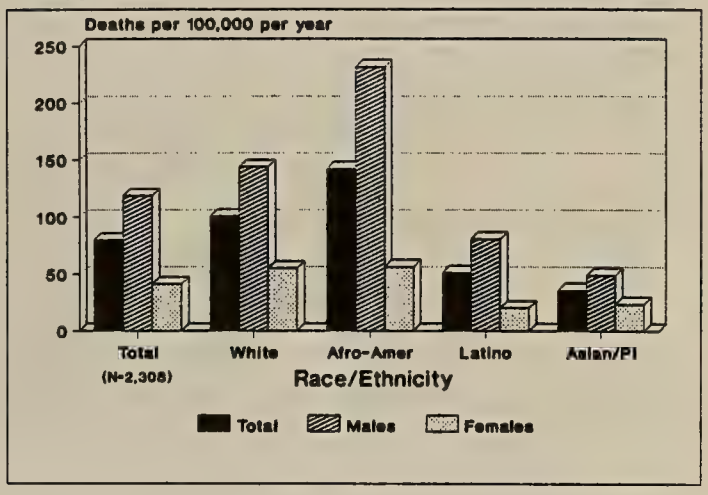
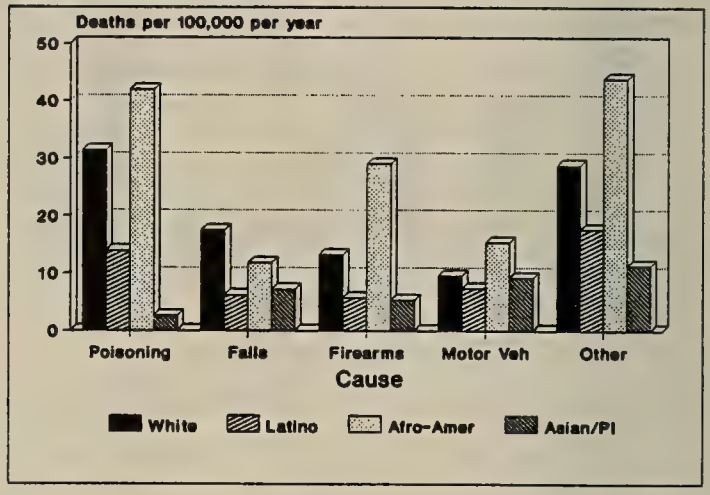


Figure 10. Injury death rates by race and cause, San Francisco, 1986-1989



Guidelines for 1991–1992 Influenza Vaccine Use*

Vaccination of high-risk persons each year before the influenza season is the single most important measure for reducing the impact of influenza. The target groups for immunization include:

A. Groups at increased risk of influenza-related complications.
   1. Persons ≥55 years of age.
   2. Residents of nursing homes and other chronic care facilities housing patients of any age with chronic medical conditions.
   3. Adults and children with chronic disorders of the cardiovascular or pulmonary systems, including children with asthma.
   4. Adults and children who have required regular medical followup or hospitalization during the preceding year because of chronic metabolic disease (including diabetes mellitus), renal dysfunction, anemia, or immunosuppression (including immunosuppression caused by medications or HIV infection).
   5. Children and teenagers (six months through 18 years of age) who are receiving long-term aspirin therapy and, therefore, may be at risk of developing Reye syndrome following influenza infection.

B. Groups that can transmit influenza to high-risk persons.
   1. Physicians, nurses, and other personnel in both hospital and out-patient settings who have extensive contact with high-risk patients in all age groups, including infants.
   2. Employees of nursing homes and chronic care facilities who have contact with patients or residents.
   3. Providers of care to high-risk persons in the home setting (e.g., visiting nurses, volunteer workers).
   4. Household members (including children) of high-risk groups.

Immunodeficient persons. Because influenza vaccine contains only non-infectious viruses, it cannot cause influenza. However, the ability of immunodeficient persons to respond by developing antibodies is unknown and probably varies from individual to individual. These people can be protected in some measure by immunization of those around them, including caregivers.

San Francisco comment: The kickoff for the annual flu campaign will be held at the

Aquatic Park Branch
San Francisco Senior Center
October 31, 1991.

Immunizations will be available at the five Department of Public Health

District Health Centers
Mornings of November 5, 7, 12, 14
and
Richmond District Neighborhood Center
741 – 30th Avenue
November 6.

Final clinics will be at

Health Center #5
Saturday, November 16
50 Ivy Street
November 18 through December 27.

The Bureau of Epidemiology and Disease Control will make vaccine available to clinics and physicians.

The 1991–92 vaccine contains three strains: A/Taiwan/1/86-like (H1N1), A/Beijing/353/89 (H3N2), and B/Panama/45/90-like antigens. Influenza season usually begins in late November or early December. Determination of outbreaks of influenza depends on rapid notification by providers. Any unusual incidence of respiratory infection should be reported immediately by telephone to the Bureau of Epidemiology and Disease Control at 554-2830. Arrangements will be made for the collection of appropriate specimens, which will facilitate efforts to document the presence of influenza in the area.

**Adapted from MMWR 1991;40:No.RR-6.*

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING June 29, 1991

DISEASE	CASES REPORTED WEEKS 23 THROUGH 26			TOTAL CASES REPORTED TO DATE		
	1989	1990	1991	1989	1990	1991
AIDS	157	115	177	1009	1096	1054
AMEBIASIS	41	32	23	146	150	159
CAMPYLOBACTERIOSIS	59	87	95	307	344	384
CHANCROID	3	2	–	3	25	2
CHLAMYDIAL INFECTIONS	160	232	176	773	1373	1311
GIARDIASIS	52	31	34	187	162	173
GONORRHEA	399	313	215	2653	2156	1677
H. INFLUENZAE INVASIVE DISEASE	6	2	–	21	14	5
HEPATITIS Type A	15	20	14	128	129	113
HEPATITIS Type B	5	5	9	47	78	42
HEPATITIS Non A - Non B	2	–	2	4	2	3
LISTERIOSIS	4	–	3	7	5	12
LYME DISEASE			1			1
MALARIA	3	1	–	26	11	4
MEASLES	1	1	–	2	32	2
MENINGOCOCCAL INFECTIONS	1	1	–	10	3	4
PELVIC INFLAMMATORY DISEASE		25	10		193	120
PERTUSSIS	–	1	–	2	1	3
RUBELLA	–	–	–	1	1	1
SALMONELLOSIS	15	10	13	95	73	97
SHIGELLOSIS	25	20	14	205	142	128
SYPHILIS, Total	56	59	64	330	442	375
SYPHILIS, Primary & Secondary	22	33	15	115	192	116
TUBERCULOSIS	23	27	26	139	171	173
TYPHOID FEVER	1	–	–	6	2	2
TOTAL DEATHS REPORTED THIS PERIOD	613	657		4236	4438	
Deaths from pneumonia and influenza	18	17		160	156	
Medical Examiner cases	120	106		839	796	
Drug-related cases	14	16		131	109	
Cocaine-related cases	6	11		49	47	

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC HEALTH
BUREAU OF EPIDEMIOLOGY AND DISEASE CONTROL

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Vol. 7, No. 9 September 1991

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IN THIS ISSUE: ***San Francisco City Clinic Cohort Study § Hepatitis Alert***

The San Francisco City Clinic Cohort Study: HIV disease progression and the impact of prophylactic therapies

Description of cohort. The San Francisco City Clinic Cohort (SFCCC) consists of 6,705 homosexual and bisexual men who were recruited from the municipal sexually transmitted disease clinic from 1978 through 1980 for studies of hepatitis B. Beginning in 1980, a subsample of 359 hepatitis B seronegative men were enrolled in a hepatitis B vaccine trial (1), which is currently ongoing. Serum samples collected for both of these studies were frozen and stored. Recognizing the similar epidemiology of AIDS and hepatitis B, studies of acquired immunodeficiency syndrome (AIDS) in this cohort of men were begun in 1983 (2).

Cohort members who agreed to participate in these AIDS follow-up studies underwent evaluations every 6-12 months, which included a behavioral interview, medical history and examination by a physician, and laboratory testing, including testing of previously stored serum. For study participants who seroconverted within a known 24-month period, the date of HIV seroconversion was estimated as the midpoint between the last HIV antibody negative and first HIV antibody positive sample. For men who were HIV seropositive on entry into the cohort in 1978 through 1980, seroconversion was approximated using a probability estimate based on men with 24 months or less between specimens. Men who remain HIV seronegative and men for whom there was no well-characterized date of HIV seroconversion were excluded from the current analysis.

AIDS cases were ascertained by conducting cross matches with San Francisco and national AIDS surveillance data, and death was determined using cross matches with the National Death Index.

Progression rates to AIDS and death. From the cohort, 516 men with well-characterized dates of HIV seroconversion were identified. This subset was analyzed to evaluate the relationship of duration of HIV infection to development of AIDS or death. Using Kaplan-Meier techniques, the risk of developing AIDS was 1% within 2 years, 12% within 5 years, 53% within 10 years, and 61% within 11.8 years after HIV infection, (95% confidence interval [CI] = 56% - 66%) (Figure 1). The risk of death from all causes was estimated to be 0.4% within 2 years after HIV seroconversion, 7% within 5 years, 41% within 10 years and 55% within 12 years (95% [CI] = 50% - 60%).

Impact of prophylactic therapies. In order to assess the potential impact of antiviral and *Pneumocystis carinii* pneumonia (PCP) prophylactic therapies on rates of HIV disease progression, the observed Kaplan-Meier curves were compared with modeled progression curves, which are based on trends prior to the use of antiviral and prophylactic therapies. A Weibull model was fitted to the cumulative incidence of AIDS prior to April 1987 (the date that zidovudine was licensed) and the curve was extended out to 11.8 years. This was then compared with the actual Kaplan-Meier curve to AIDS (Figure 2). The curves are quite similar through 8 years, when the actual curve begins to lag behind the projections. At 10 years, the actual curve was 12 percentage points less than the Weibull model would have predicted. At 11.8 years, the modeled curve predicted a cumulative AIDS incidence of 81%; the actual cumulative incidence was fully 20 percentage points less than the modeled curve.

A Weibull model was fitted to the cumulative incidence of death occurring through April 1987 and compared with the actual Kaplan-Meier progression of time to death (Figure 3). Again, the observed progression curve lagged behind the projected curves. At 10 years, the actual curve was 11% lower than the projections and by 12 years it had dropped to 19% lower than the modeled curve.

Reported by Research Branch, AIDS Office.

Editorial note. The SFCCC study is unique in providing 13 years of follow-up on a large group of homosexual and bisexual men with known dates of HIV seroconversion (3,4). Information on HIV disease progression from the SFCCC has been used to model the AIDS epidemic both in the United States (5,6) and worldwide (7,8). Monitoring trends in disease progression over time in this and other cohorts will help in counseling HIV infected persons and planning for health care services.

Clinical trials have clearly demonstrated that antiviral agents such as zidovudine delay progression time to AIDS and increase survival time (9,10). Similarly, use of PCP prophylaxis in persons with CD4+ counts of less than 200 significantly decreases the risk of developing PCP (11-13). Because HIV infected populations are increasingly using these therapies (14-17), one might expect to see slower rates of HIV disease progression and improved survival in population-based studies. In fact, several studies have documented that survival after an AIDS diagnosis has improved since 1987 (18-20); these studies suggest that prophylactic therapies may be responsible for this improvement. Data from observational cohorts have been used to create models of the time from HIV seroconversion to AIDS; such studies also demonstrate delayed progression and suggest that prophylactic therapies play a major role in this change (21-24).

Observational data from the SFCCC suggest that progression time from HIV seroconversion to AIDS is slowing. However, antiviral and prophylactic therapies may not be the only reason for delayed progression in HIV-infected persons. To look for additional explanations for the lower than expected rates of HIV disease progression, data was analyzed from a subset of men with long-term HIV infection. In the last 2 years 123 men were examined who were HIV-infected prior to 1981 but had not developed AIDS (Figure 4). Of this group, 47% (58/123) reported never taking antiviral agents or PCP prophylaxis; reasons other than prophylaxis must be invoked to explain delayed progression in this group. In fact, many of the men without AIDS had not developed advanced HIV disease, defined here as HIV-related symptoms or CD4+ counts of less than 200 cells/mm^3. Of the total 123 men, 38% (47/123) had not progressed to advanced HIV disease, and 62% of this subset (29/47) had not taken antiviral or prophylactic therapies. This group of men represents the healthiest "outliers" on the HIV disease progression curve. Additional studies of men in the SFCCC who have remained asymptomatic for 8-12 years without use of antiviral or prophylactic therapies have indicated several areas of enhanced humoral and cellular immunity (25,26). When compared with men in the cohort who had progressed to AIDS, the "non-progressers" had significantly higher antibody titers to envelope and core proteins, enhanced CD8+ suppressor cell activity and cytotoxic lymphocyte activity against core proteins. Others have suggested that genes in or near the major histocompatability complex may be associated with delayed HIV progression (27-29).

These studies emphasize the importance of early intervention in slowing HIV disease progression and suggest promising areas of future research into immunologic and genetic factors which may delay or arrest HIV disease progression.

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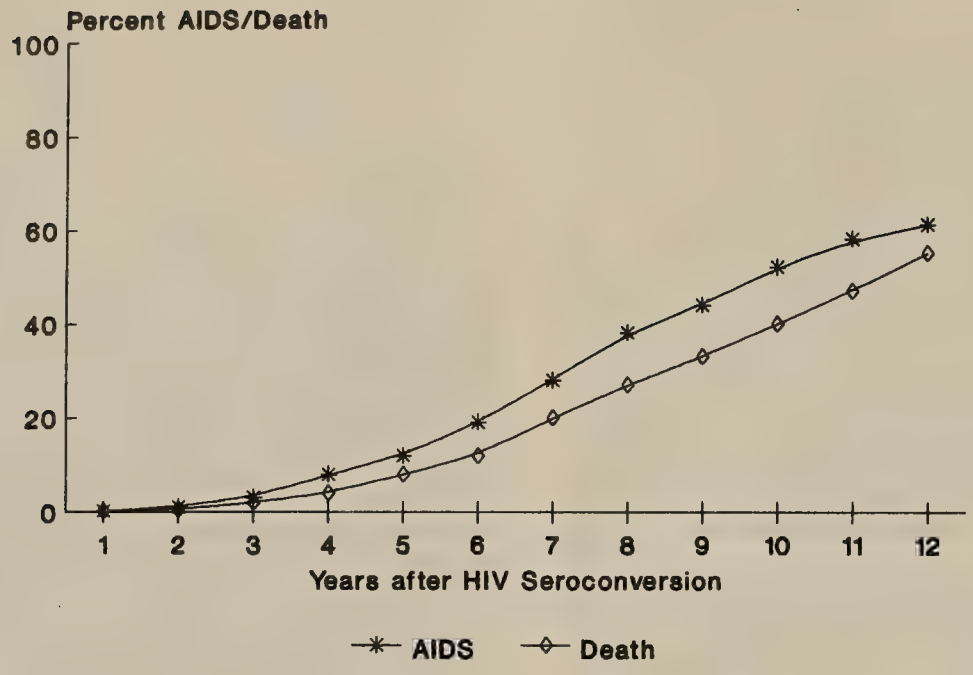

Figure 1. Time to AIDS or death, Kaplan–Meier technique, San Francisco City Clinic Cohort

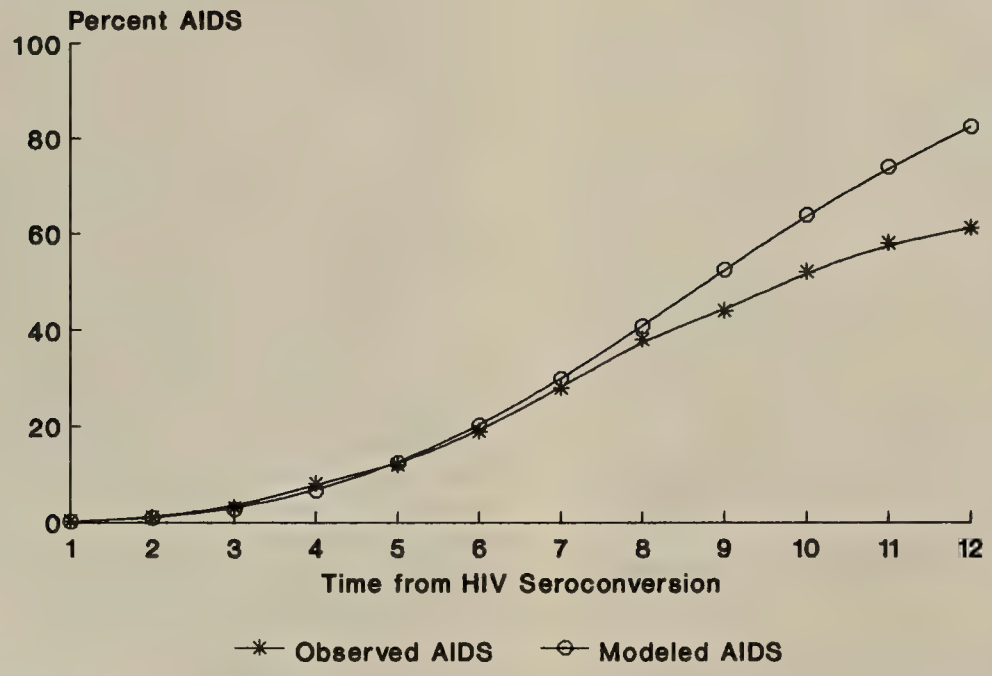

Figure 2. Observed versus modeled time to AIDS, San Francisco City Clinic Cohort

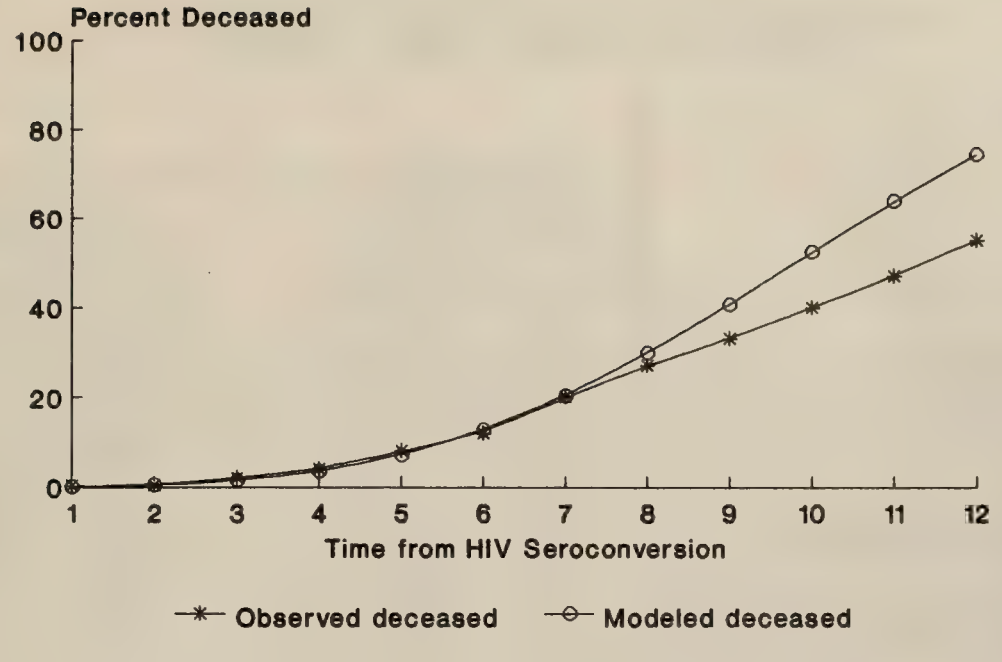

Figure 3. Observed versus modeled time to death, San Francisco City Clinic Cohort

Antiviral or prophylactic therapies?

Symptoms or CD4+ < 200 ?	Ever	Never	Total
Ever	47	29	76
Never	18	29	47
Total	65	58	123

Figure 4. Men with long-term HIV infection without AIDS, San Francisco City Clinic Cohort

Hepatitis ALERT

We are seeing a moderate increase in hepatitis A cases with what appears to be an increase in food handlers, especially bartenders. There have been reports of an increase in hepatitis A in the gay community in other areas. Reports often do not reach us until too late for us to undertake the various interventions. Please report hepatitis cases to us promptly, prior to serological confirmation if the patient is a food handler.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING August 3, 1991

DISEASE	CASES REPORTED WEEKS 27 THROUGH 31			TOTAL CASES REPORTED TO DATE		
	1989	1990	1991	1989	1990	1991
AIDS	186	182	174	1195	1278	1228
AMEBIASIS	32	39	36	178	189	195
CAMPYLOBACTERIOSIS	76	97	91	383	441	475
CHANCROID	3	6	–	6	31	2
CHLAMYDIAL INFECTIONS	209	276	189	982	1649	1500
GIARDIASIS	43	36	25	230	198	198
GONORRHEA	427	464	284	3080	2620	1961
H. INFLUENZAE INVASIVE DISEASE	2	2	2	23	16	7
HEPATITIS Type A	23	36	31	151	165	144
HEPATITIS Type B	9	19	5	56	97	47
HEPATITIS Non A - Non B	1	4	–	5	6	3
LISTERIOSIS	2	3	1	9	8	13
LYME DISEASE	2		1	2		2
MALARIA	4	5	1	30	16	5
MEASLES	4	3	–	6	35	2
MENINGOCOCCAL INFECTIONS	2	2	–	12	5	4
PELVIC INFLAMMATORY DISEASE		34	16		227	136
PERTUSSIS	–	–	–	2	1	3
RUBELLA	–	–	–	1	1	1
SALMONELLOSIS	27	40	11	122	113	108
SHIGELLOSIS	44	52	32	249	194	160
SYPHILIS, Total	62	111	54	392	553	429
SYPHILIS, Primary & Secondary	19	42	9	134	234	125
TUBERCULOSIS	30	38	24	169	209	197
TYPHOID FEVER	–	–	–	6	2	2
TOTAL DEATHS REPORTED THIS PERIOD	737	759		4973	5197	
Deaths from pneumonia and influenza	12	25		172	181	
Medical Examiner cases	147	142		986	938	
Drug-related cases	23	29		154	138	
Cocaine-related cases	11	14		60	61	

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

Vol. 7, No. 10 October 1991

IN THIS ISSUE:

Tuberculosis Alert, TB Epidemiology, TB Guidelines

TUBERCULOSIS ALERT

The face of tuberculosis (TB) has changed over the last several years in San Francisco. An increasing proportion of new TB cases are being diagnosed in individuals infected with HIV. To prevent accelerated transmission of *M. tuberculosis*, intensified prevention and control efforts are necessary.

The Facts:

1. TB is now occurring in 4% of persons with AIDS.
2. Persons with latent TB infection (as manifested by a positive PPD) who are also HIV-positive have a 7-10% chance each year of developing active TB.
3. Early in HIV infection, the PPD skin test remains a useful tool to identify those with latent or active TB. Even in those with advanced HIV immunosuppression, 20-30% infected with *M. tuberculosis* will have a positive PPD. In HIV-infected persons a PPD ≥5mm is positive.
4. Persons who are HIV-infected and who are exposed to a case of infectious, active TB are at very high risk of developing active TB within weeks to a few months of the exposure.

Recommended Action:

1. All providers should encourage PPD skin testing for their HIV-positive patients. If the skin test is ≥5mm, a chest x-ray should be obtained and INH 300mg daily for one year should be offered.
2. Consider TB in any HIV-positive patient with pulmonary symptoms or x-ray findings. Since extra-pulmonary TB is common in persons with HIV infection, consider TB if there is enlarging lymphadenopathy, meningitis, pericarditis or other unexplained inflammatory process.
3. Report all suspected TB cases to the health department so that prompt contact investigation can be initiated. Expert consultation is available.
4. Provide regular (annual) PPD screening to your staff and yourself.

Recommended guidelines for TB prevention are included in this issue.

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Tuberculosis epidemiology in San Francisco, 1990

The rapid spread of tuberculosis (TB) among persons immunocompromised by HIV infection (*1,2*) and transmission of TB to health care workers (*1*) and others who work closely with persons who are at higher risk for TB has contributed to the increasing concern about TB among health care providers.

In 1990, 334 cases of new active TB were reported in San Francisco for a case rate of 46.1/100,000 population, more than four times the case rate in the United States as a whole (10.3/100,000).

The number of new active cases in San Francisco has remained fairly constant since 1985, but with a slightly rising trend (Table 1).

Table 1. TB cases San Francisco, 1985–1990

Year	Number of New Cases
1985	306
1986	283
1987	322
1988	313
1989	286
1990	334

Over the last eight years, HIV immunosuppression has made a growing contribution to the incidence of TB. The percentage of all TB cases that also have a diagnosis of AIDS has risen sharply from 1982 to 1990 (Table 2).

Table 2. Percent of TB cases with AIDS, San Francisco, 1982–1990

Year	% TB cases with AIDS
1982–1983	1.3
1984–1986	6.6
1987–1988	15.7
1989–1990	20.8

Much of this observed increase reflects the increasing incidence of AIDS in San Francisco. However, the fraction of persons with AIDS who also develop TB has risen from 2% prior to 1985, to 3% from 1985 through 1987, to 4% from 1988 through 1990. This is likely a reflection of the changing demographics of persons diagnosed with AIDS. New cases of AIDS are being diagnosed more frequently in groups such as intravenous drug users and ethnic/racial minorities who have a higher prevalence of latent TB infection. The role of increased exposure to active TB is difficult to measure.

Ethnicity. The ethnic breakdown of the 334 TB cases in 1990 is shown in Table 3.

Table 3. TB in San Francisco by ethnicity/race

Race	Numbers(%)	Cases rates per 100,000
Asian American	156 (46.7)	74
White	91 (27.2)	23
African American	51 (15.3)	64
Latino	33 (9.9)	33
Other	3 (0.9)	NA

Foreign-born. As in past years, the majority of TB cases reported in San Francisco in 1990 continued to be among the foreign-born (59%). The number of American-born cases has gradually increased, however. In 1990, 138 cases were American-born, the highest number in over a decade, and almost twice as many as were seen in 1982 and 1983.

Drug resistance. In 1990, 14% of the 334 new TB cases had organisms resistant to one or more anti-tuberculous drugs. Isoniazid and/or streptomycin were the agents to which most resistance was seen. Three-quarters of the drug resistant cases were foreign-born. Drug resistant cases were also very likely to have had previous treatment for TB. The incidence of drug-resistant TB has not changed in San Francisco over the past decade.

Cases among children 0–14 years. In 1990, there were 10 cases of TB in children 0–14 years of age. Cases were identified as a result of contact investigation (1), evaluation for symptoms (4), and as a result of mandatory skin testing of new school enrollees (5). Three of the five found through school screening were recent immigrants who had been in the U.S. less than two months. One of the symptomatic children had failed to complete INH given for a positive PPD the previous year.

Reported by the Tuberculosis Control Division

References

1. CDC. Nosocomial transmission of multidrug-resistant tuberculosis among HIV-infected persons – Florida and New York, 1988–1991. MMWR 1991;40:585–91.

2. CDC. Tuberculosis outbreak among persons in a residential facility for HIV-infected persons – San Francisco. MMWR 1991;40:649–652.

Tuberculosis (TB) control efforts are maximized by targeting efforts towards geographically and demographically defined groups. Groups that are at high risk for TB include the following 1) the HIV-infected, 2) immigrants or refugees from countries where TB is prevalent, 3) racial and ethnic minorities (this higher risk may be related primarily to socio-economic conditions), 4) the homeless, 5) the elderly, and 6) persons who have spent time in institutions such as jails and prisons.

Individuals who work with persons in the groups above are more likely than the general population to come into contact with a person with TB, but the likelihood of becoming infected will vary greatly depending on length of exposure, the size of the area in which exposure occurred, (i.e., small closed room versus large hall), ventilation, and whether the TB case is under treatment.

Preventing transmission.

1. Early identification of persons with active TB and early institution of appropriate anti-TB medication for suspected TB cases is critical to decreasing subsequent transmission of TB. Symptoms of TB such as persistant cough, fever, night sweats, weight loss and fatigue should be rapidly evaluated with a chest x-ray and/or appropriate specimens for acid-fast smear and culture.
2. Use of environmental controls including:
   a. Adherence to enviromental standards for adequacy of ventilation.
   b. Increased use of high efficiency particulate air (HEPA) filters and ultraviolet (UV) lights in areas where persons at high risk for TB congregate, such as hospital emergency rooms, homeless shelters, prisons and jails, aerosolized pentamidine sites.
   c. Ensuring that hospital rooms used for TB isolation are at negative pressure with respect to hallways and other working areas, and that TB isolation procedures are strictly adhered to.
3. Surveillance and screening:
   a. Health care workers in hospitals, clinics, private physician offices, and convalescent or extended care settings should have pre-employment and at least annual PPD skin test screening.
   b. Persons at high risk for TB (described above) should be evaluated for possible active TB prior to entering a care setting where others may be placed at risk. Evaluation should include, at a minimum, PPD skin testing followed by a chest x-ray if positive, and a chest x-ray regardless of PPD if symptoms of cough and sputum production or HIV infection are present. Sputum smears and cultures for AFB should be considered if symptoms warrant.

Identifying individuals for preventive therapy:

1. Persons who belong to groups at high risk for TB should be screened with the PPD skin test by Mantoux technique. If positive or if symptomatic, a chest x-ray should be taken. Isoniazid prophylactic therapy should be offered to skin test positive persons who are HIV-infected regardless of age, close contacts to active cases and recent skin test converters regardless of age, children, recent immigrants from countries with a high incidence of TB up to age 35, and persons with evidence of old TB on chest x-ray but without current TB. A full set of guidelines is published by CDC in the MMWR (1).
2. Settings where regular PPD screening of staff is appropriate include health care sites, drug treatment sites, programs for the HIV infected, homeless shelters, and jails and prisons.
3. Screening of the general population is not indicated and not cost effective.

Reference

1. CDC. Screening for tuberculosis and tuberculosis infection in high-risk populations and the use of preventive therapy for tuberculosis. MMWR 1990;39:suppl RR-8,1-12.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING August 31, 1991

DISEASE	CASES REPORTED WEEKS 32 THROUGH 35			TOTAL CASES REPORTED TO DATE		
	1989	1990	1991	1989	1990	1991
AIDS	132	183	230	1327	1461	1458
AMEBIASIS	38	27	21	216	216	216
CAMPYLOBACTERIOSIS	62	90	68	445	531	543
CHANCROID	1	7	–	7	38	2
CHLAMYDIAL INFECTIONS	195	236	144	1177	1885	1644
GIARDIASIS	43	29	23	273	227	221
GONORRHEA	332	338	252	3412	2958	2213
H. INFLUENZAE INVASIVE DISEASE	–	4	4	23	20	11
HEPATITIS Type A	22	19	40	173	184	184
HEPATITIS Type B	10	6	6	66	103	53
HEPATITIS Non A - Non B	2	–	–	7	6	3
LISTERIOSIS	1	1	–	10	9	13
LYME DISEASE	2		1	4		3
MALARIA	3	3	–	33	19	5
MEASLES	3	1	–	9	36	2
MENINGOCOCCAL INFECTIONS	1	–	1	13	5	5
PELVIC INFLAMMATORY DISEASE		17	11		244	147
PERTUSSIS	1	2	2	3	3	5
RUBELLA	–	–	–	1	1	1
SALMONELLOSIS	19	12	11	141	125	119
SHIGELLOSIS	42	38	37	291	232	197
SYPHILIS, Total	51	75	55	443	628	484
SYPHILIS, Primary & Secondary	17	24	10	151	258	135
TUBERCULOSIS	23	25	26	192	234	223
TYPHOID FEVER	1	–	–	7	2	2
TOTAL DEATHS REPORTED THIS PERIOD	615	605		5588	5802	
Deaths from pneumonia and influenza	20	17		192	198	
Medical Examiner cases	112	110		1098	1048	
Drug-related cases	16	15		170	153	
Cocaine-related cases	5	8		65	69	

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

Vol. 7, No. 11 November 1991

IN THIS ISSUE: ***Women with AIDS § STD Prevention/Training Center two-day conference***

Women with AIDS in San Francisco

In the eight years since the first female AIDS case was reported in August, 1983, 177 AIDS cases in women have been reported to the San Francisco Department of Public Health (SFDPH). This descriptive analysis is based upon the 165 AIDS cases reported through September, 1991 among women over twelve years of age.

Women constitute approximately 1.5% of the 11,193 total adult/adolescent cases reported through September, 1991. The number of cases of women diagnosed with AIDS in San Francisco has increased since 1983 (Figure 1). The majority of cases have been reported in women between 30 and 49 years of age (Figure 2); no cases have ever been reported among adolescent women. Approximately 85% of the women were residing in San Francisco when they were diagnosed with AIDS. Of these San Francisco residents, the highest proportion (15%) lived in the Tenderloin/Civic Center area, followed by Bayview/Hunter's Point (10%) and the Western Addition (8%). Approximately half of the women with AIDS were white (Figure 3); African Americans and Latinas constituted 35% and 9%, respectively, of all women with AIDS. The remaining 7% were Asians, Pacific Islanders, and Native Americans. Of the 165 women reported with AIDS in San Francisco, 56 (34%) are living, 102 (62%) have died, and 7 (4%) have been lost to follow-up as of October 15, 1991.

Injection drug use was the most common risk category among women in San Francisco, accounting for 76 (46%) of the 165 cases (Figure 4). Forty-eight (29%) of the women were exposed via heterosexual contact and 40 (24%) through blood transfusion (prior to 1985). Only one woman had no identified risk factors for exposure to HIV.

The majority (86%) of women reported with AIDS in San Francisco were heterosexual (Figure 5); twelve women (7%) did not report any sexual relations since 1977; four women (2%) were lesbian; and three (2%) were bisexual. Sexual orientation was unknown for four (2%) women. Among the seven lesbian or bisexual women, four were probably infected via injection drug use, two by blood transfusion, and one by sexual contact with a bisexual man. There have been no documented cases of female-to-female transmission of HIV reported among women with AIDS in San Francisco; the one woman with no identified risk factors was heterosexual.

Pneumocystis carinii pneumonia (PCP) was the most common primary AIDS diagnosis, accounting for 53% of the primary diagnoses among women (Table 1).

Table 1. Women with AIDS in San Francisco, by initial AIDS diagnosis

Initial Diagnosis	Frequency	Percent
PCP	87	53%
Candidiasis, esophageal	20	12%
HIV wasting syndrome	12	7%
Cryptococcosis	10	6%
HIV encephalopathy	9	6%
Toxoplasmosis	7	4%
Cytomegalovirus	4	2%
Non-Hodgkins lymphoma	4	2%
CMV retinitis	3	2%
Other	9	6%

Eighty of the 87 women with PCP (93%) were diagnosed using definitive laboratory methods, whereas only seven women were diagnosed as clinically presumptive. Twenty women (12%) were initially diagnosed with esophageal candidiasis, 12 (7%) with HIV wasting syndrome, 10 (6%) with cryptococcosis, and 9 (6%) with HIV encephalopathy. Less common primary diagnoses included toxoplasmosis (4%), cytomegalovirus (2%), non-Hodgkins' lymphoma (2%), and CMV retinitis (2%). Only 12% of the women had more than one AIDS-indicative manifestation at time of diagnosis. No women were initially diagnosed with more than two AIDS-related manifestations. Based on their initial diagnoses, 75% of the women could have been diagnosed with AIDS under the 1985 version

of the AIDS case definition, whereas 25% were diagnosed only under the new (1987) criteria (Figure 6).

Reported by the AIDS Office Surveillance Branch

Editorial note: Although relatively few cases of AIDS in women have been reported to date in San Francisco, the numbers have increased in recent years. Much of the increase in reporting can be attributed to the expansion of the CDC definition of AIDS in 1987. The 1987 revision of the AIDS case definition increased reporting of AIDS among women by 28%, whereas among men reporting was increased by only 19% (1). It is possible that the new case definition recently proposed by the CDC would likewise further expand the reporting of women with AIDS.

Our findings regarding female-to-female transmission of HIV among AIDS patients in San Francisco are similar to those published in a study using national surveillance data (2). This study found that all AIDS cases among lesbians could be attributed to either injection drug use or exposure to infected blood products via transfusion (prior to 1985). The absence of female-to-female sexual transmission as an independent risk factor for AIDS and the paucity of case reports documenting such transmission suggest that this exposure is not a strong risk factor for HIV infection. However, since health care providers may be more likely to document an HIV-infected woman's heterosexual relations than her homosexual relations as a possible mode of transmission, SFDPH surveillance data may underestimate the proportion of lesbian and bisexual women with AIDS in San Francisco.

Women may be diagnosed later in the course of HIV disease because the current CDC case definition may not adequately address diseases occurring among HIV-infected women. Women with AIDS may also have less access to health care than their male counterparts, which would result in later diagnosis and less use of therapy. Surveillance data through September, 1991, suggest that women are more than twice as likely as men to be diagnosed with AIDS within a month of death and are less likely to receive AZT therapy at some point during the course of their illness. In addition, both women and their health care providers may suspect HIV infection or AIDS only at a late stage in the disease, when more severe manifestations are present. Revision of the current AIDS case definition, greater awareness on the part of health care providers regarding HIV infection in women, and the expansion of educational programs and health care services available to women in San Francisco are appropriate steps toward addressing these problems.

References

1. Payne SF, Rutherford GW, Lemp GF, Clevenger AC. Effect of the revised AIDS case definition on AIDS reporting in San Francisco: evidence of increased reporting in intravenous drug users. AIDS 1991;4:335-339.
2. Chu SY, Buehler JW, Fleming PL, Berkelman RL. Epidemiology of reported cases of AIDS in lesbians, United States 1980-89. Am J Public Health 1990; 80:1380-1381.

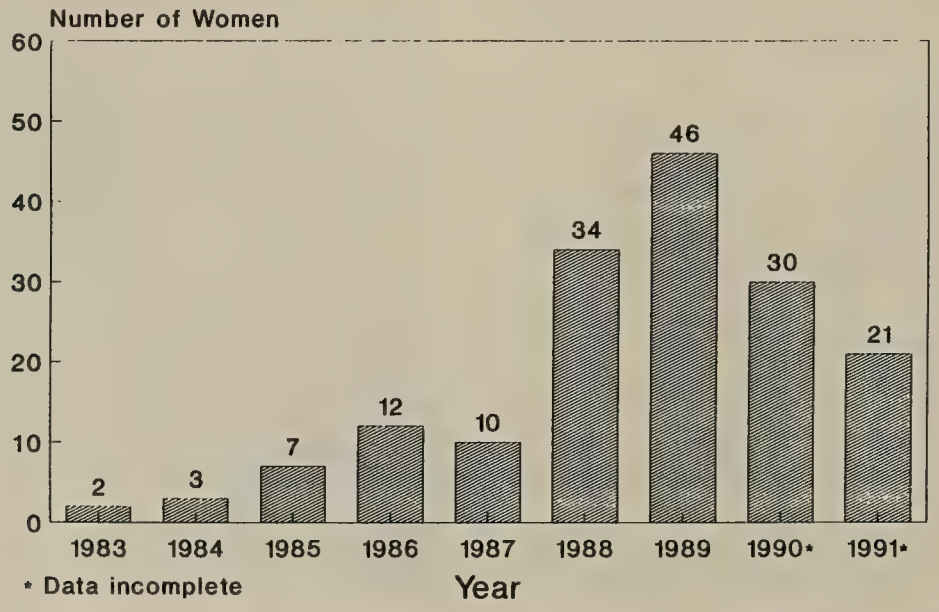

Figure 1. Women with AIDS in San Francisco, by year of diagnosis

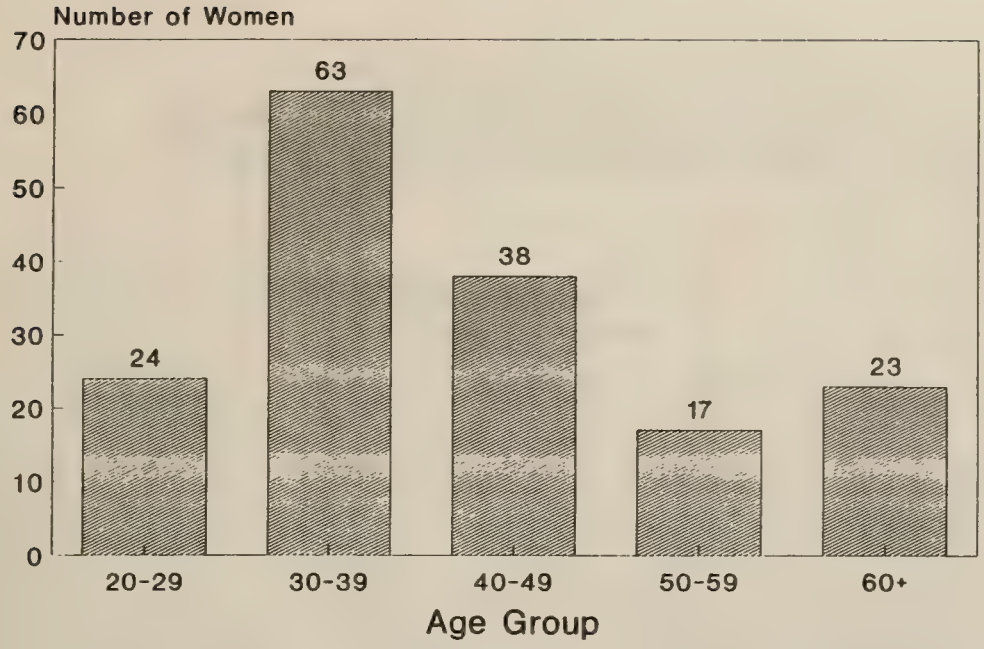

Figure 2. Women with AIDS in San Francisco, by age group

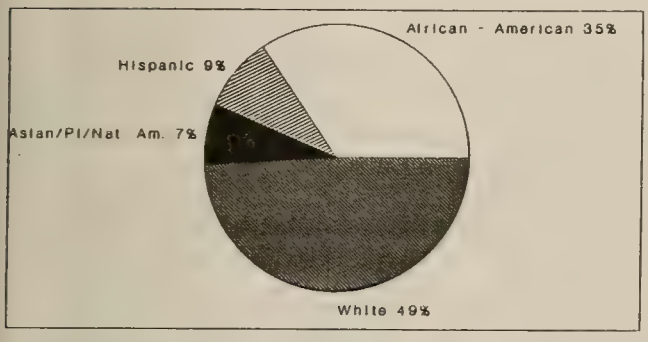

Figure 3. Women with AIDS in San Francisco, by race/ethnicity

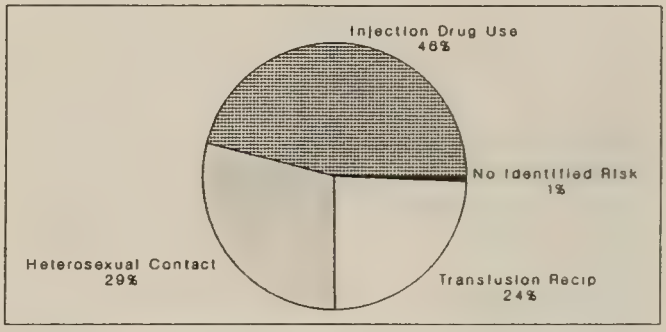

Figure 4. Women with AIDS in San Francisco, by transmission category

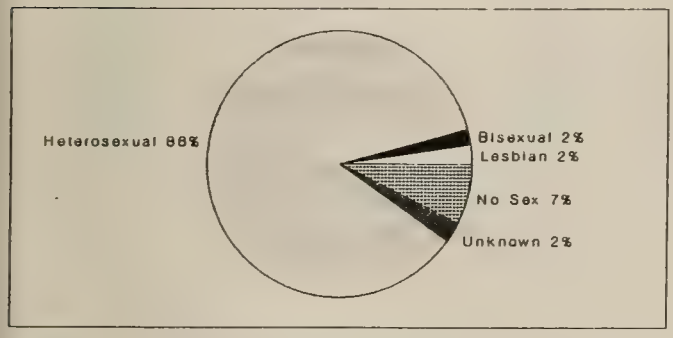

Figure 5. Women with AIDS in San Francisco, by sexual orientation

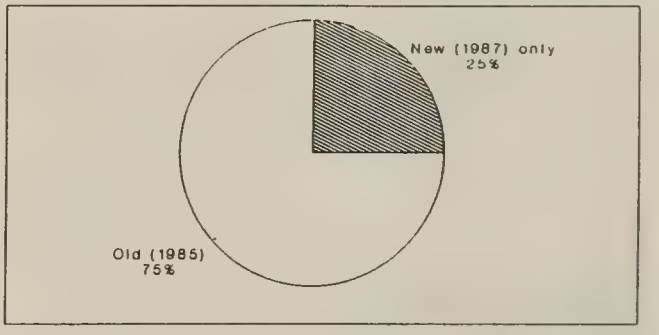

Figure 6. Women with AIDS in San Francisco, by version of case definition

THE SAN FRANCISCO STD PREVENTION/TRAINING CENTER WILL BE HOLDING A TWO-DAY CONFERENCE ON CLINICAL ISSUES RELATED TO WOMEN AND HIV. THE CME AND CEU CREDIT COURSE WILL BE HELD IN SAN FRANCISCO ON MAY 7 AND 8, 1992. FOR FURTHER INFORMATION CONTACT:

SAN FRANCISCO STD PREVENTION/TRAINING CENTER
1372 MISSION STREET, SAN FRANCISCO, CA 94103-2609

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING September 28, 1991

DISEASE	CASES REPORTED WEEKS 36 THROUGH 39			TOTAL CASES REPORTED TO DATE		
	1989	1990	1991	1989	1990	1991
AIDS	154	125	128	1481	1586	1586
AMEBIASIS	20	24	25	236	240	241
CAMPYLOBACTERIOSIS	71	69	83	516	600	626
CHANCROID	4	1	–	11	39	2
CHLAMYDIAL INFECTIONS	157	204	127	1334	2089	1771
GIARDIASIS	38	32	20	311	259	241
GONORRHEA	291	264	260	3703	3222	2473
H. INFLUENZAE INVASIVE DISEASE	–	1	1	23	21	12
HEPATITIS Type A	23	16	43	196	200	227
HEPATITIS Type B	–	3	3	66	106	56
HEPATITIS Non A - Non B	–	–	1	7	6	4
LISTERIOSIS	1	–	–	11	9	13
LYME DISEASE	2	1	–	6	1	3
MALARIA	2	1	1	35	20	6
MEASLES	–	1	–	9	37	2
MENINGOCOCCAL INFECTIONS	–	1	1	13	6	6
PELVIC INFLAMMATORY DISEASE		13	12		257	159
PERTUSSIS	–	–	–	3	3	5
RUBELLA	–	–	–	1	1	1
SALMONELLOSIS	21	21	10	162	146	129
SHIGELLOSIS	31	30	17	322	262	214
SYPHILIS, Total	46	83	24	489	711	508
SYPHILIS, Primary & Secondary	20	29	4	171	287	139
TUBERCULOSIS	22	26	25	214	260	248
TYPHOID FEVER	–	–	–	7	2	2
TOTAL DEATHS REPORTED THIS PERIOD	638	625		6226	6427	
Deaths from pneumonia and influenza	17	18		209	216	
Medical Examiner cases	106	114		1204	1162	
Drug-related cases	20	28		190	181	
Cocaine-related cases	7	19		72	88	

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

Vol. 7, No. 12 December 1991

IN THIS ISSUE: *HIV antibody testing*

Trends in HIV antibody testing in San Francisco, March 1990 – May 1991

The San Francisco Department of Public Health (SFDPH) has offered human immunodeficiency virus (HIV) antibody testing at several sites in San Francisco since 1985. These health center-based anonymous testing programs were originally developed to redirect high risk individuals from obtaining HIV antibody screening at blood donation sites. Confidential testing, although offered by private physicians since 1985, became widely available in 1988 in the department's municipal sexually transmitted disease (STD) clinic, family planning clinics, and various drug treatment centers. Both anonymous and confidential HIV antibody counseling and testing services are still currently available at these sites.

In early 1990, anonymous and confidential testing programs, historically coordinated by the department as two distinct and separate entities were integrated so that consistent demographic data from all participating sites could be collected.

This report examines trends in anonymous and confidential HIV testing during the fourteen month interval from March 1990 through May 1991. During this time, 26,815 tests were conducted, with a monthly average of 1,787 tests (Figure 1). The number of HIV tests fluctuated considerably each month, most likely reflecting individual factors as well as promotional events and media campaigns.

One such event was the annual Castro Street Fair in September 1990, during which 242 HIV antibody tests were performed. The two-week period necessary for performing confirmatory testing is partially responsible for the peak in utilization for the month of October. The slight upward trend in mid-1991 may be attributed to a local media campaign produced by the Burroughs Wellcome Corporation which emphasized HIV counseling and testing and its early intervention benefits.

Anonymous HIV counseling and testing sites continue to be utilized at a higher rate than confidential testing sites (Figure 2). For the examined time period, anonymous testing represented 63% of all tests; however, this has not been consistent over time. In March 1990, 82% of individuals tested chose anonymous testing, whereas 58% did so in May 1991 (Figure 3). This trend may reflect recent efforts to promote confidential testing in primary care settings so that individuals at risk are counseled and screened for HIV to identify infected individuals early in their disease.

The seropositive rate for individuals at participating testing sites decreased from 10.9% in March 1990 to 6.3% in May 1991 (Figure 4). However, it should be noted that this decrease does not represent a decline in HIV seroprevalence in San Francisco. The decline is most likely due to increasing numbers of individuals at lower risk for HIV who are seeking antibody testing, and may be an indication that prevention messages are reaching the broader community. Further, since counseling and testing clients are self-selected, this antibody testing measure alone cannot be used to accurately estimate seroprevalence in the population.

Selected demographic information is available on approximately 75% of the 26,815 clients tested for HIV antibody. Men continue to be HIV tested at considerably higher rates than women (Figure 5). During the examined time period, 74% of tested individuals were males, and 26% were females. The seroprevalence between the groups also differed considerably, with males reporting a much higher rate of seropositivity (10.3% males; 1.7% females).

The age distribution of clients illustrates that HIV testing is frequented more by younger individuals (Table 1). A disturbingly high percentage of young people were HIV positive.

Table 1. Clients by age group and seroprevalence, HIV counseling and testing programs, San Francisco, 1990–1991

	Tested	% HIV Seropositive
<20	4,460	10.0%
20–29	5,350	6.6%
30–39	5,294	10.8%
40–49	2,557	10.7%
50–59	753	7.7%
>60	335	3.4%

The ethnic distribution of clients tested during this period was 70% white, 12.3% African American, 11.1% Latino, 5.7% Asian/Pacific Islander, and 0.6% Native American (Figure 6). Ethnic minority groups are becoming an increasing proportion of the HIV testing client population. In March 1990, ethnic minorities represented 20% of clients tested. In May 1991, 35% of clients tested were among ethnic minorities (Figure 7). This upward trend is supported by earlier data from 1985 to 1988 which showed that ethnic minorities represented only 16% of clients tested (1). The absolute number of ethnic minorities is increasing at testing sites, with particularly higher levels of use beginning in February 1991 (Figure 8). The HIV seroprevalence among all ethnic groups selecting testing is presented in Table 2.

Table 2. Clients by ethnicity and seroprevalence, HIV counseling and testing programs, San Francisco, 1990–1991

	Tested	% HIV Seropositive
White	14,958	8.0%
African American	2,638	11.4%
Latino	2,375	8.6%
Asian/Pacific Is	1,223	4.4%
Native American	142	14.0%

The most recent increases in ethnic minority participation in HIV testing are particularly noteworthy in light of recent media campaigns designed to promote testing among these groups. This preliminary data suggests that these campaigns may have stimulated participation in HIV testing. However, further and more refined analysis of testing trends with the timing of media campaigns is needed to substantiate the relationship.

Reported by the AIDS Office Prevention Branch.

Editorial Note. Although data are mixed on the efficacy of HIV antibody counseling and testing programs in the modification of high risk behavior (2,3,4,5), counseling and testing programs are considered an essential prevention strategy in controlling the AIDS epidemic (6,7). Counseling and testing programs have been well utilized by the San Francisco community. In this fourteen month reporting period, 2,263 individuals were found to be HIV positive.

The increasing numbers of individuals choosing HIV testing and the declining seroprevalence rate suggests that individuals at lower risk for HIV infection are being tested at increasing rates. Also noteworthy are the increasing rates of individuals choosing confidential testing services. To date, 42% of individuals have chosen confidential testing as opposed to 18% seventeen months ago. Our data also indicates that ethnic minorities use confidential testing sites more frequently than anonymous testing sites, primarily the department's STD clinic.

Since clients seeking counseling and testing are self-selected, this data cannot be used to estimate seroprevalence among individual age and ethnic groups or the population as a whole. However, of significant interest in these data is a high incidence of HIV infection among San Francisco adolescents. Additionally, a recent seroprevalence study of young gay men (8) in which 12% of youth aged 17 to 25 were determined to be HIV positive suggests the need for targeted interventions to younger gay men.

HIV counseling and testing increased among ethnic minorities by 15% during this reporting period. This suggests that mass media and specific targeted educational programs can increase awareness of personal risk and promote the effectiveness of early medical interventions.

Women continue to constitute a small proportion of the total HIV tests performed in

San Francisco. This may be partially attributed to the absence of antibody testing campaigns targeting women at risk. Future HIV prevention campaigns should be designed to further increase awareness of risk among women, adolescents and communities of color.

Private physicians may participate in the confidential testing program by contacting the Department of Public Health AIDS Office at 554-9000 or the Microbiology Laboratory at 554-2800. Health care practitioners are encouraged to refer clients to anonymous testing appointments at (415) 621-4858 or (415) 864-8100 for confidential or anonymous testing and comprehensive STD testing and treatment.

References

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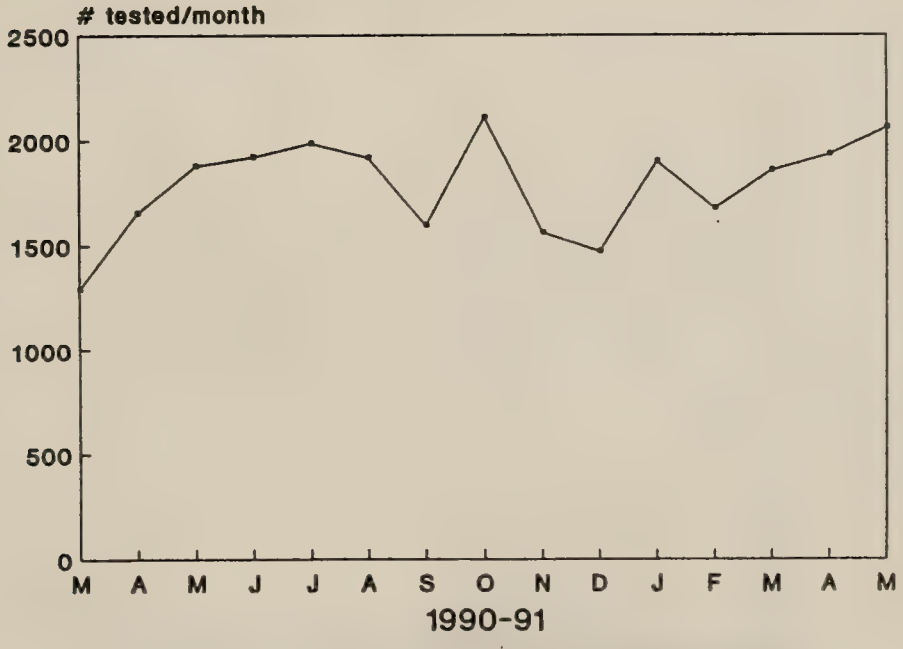

Figure 1. Publicly Funded HIV Testing in SF

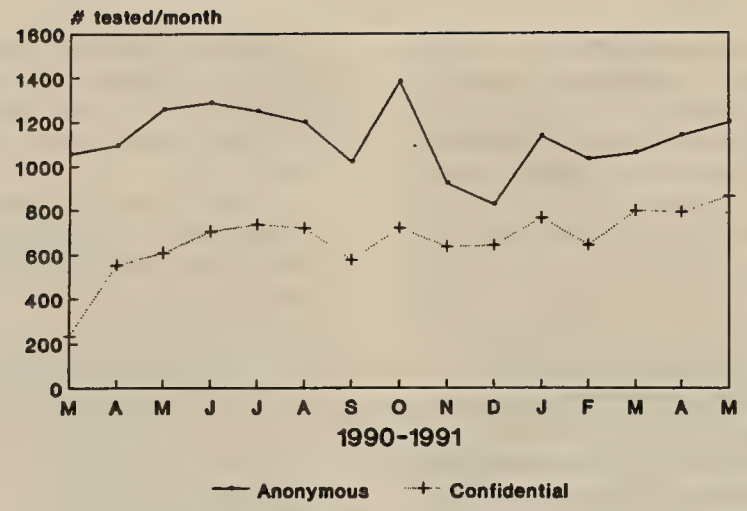

Figure 2. Anonymous and Confidential HIV Testing

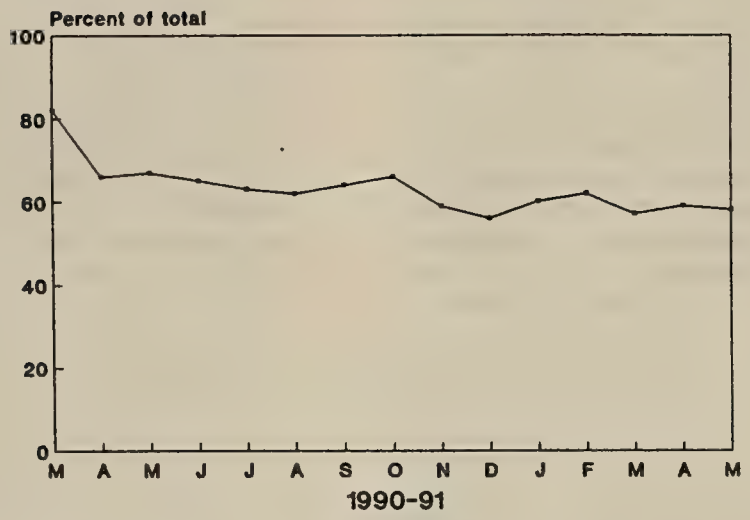

Figure 3. Anonymous HIV Testing as % of Total Testing

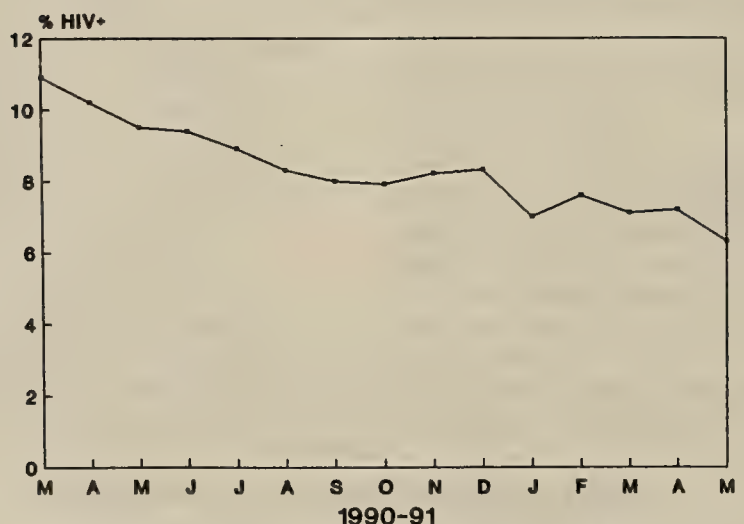

Figure 4. HIV Seroprevalence of Testing Site Clients

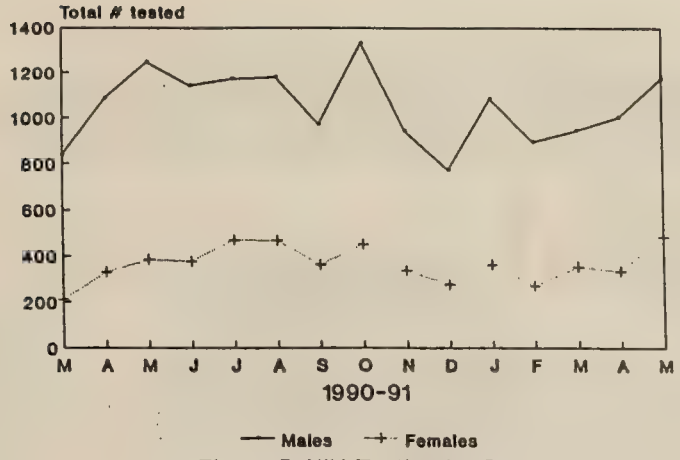

Figure 5. HIV Testing by Sex

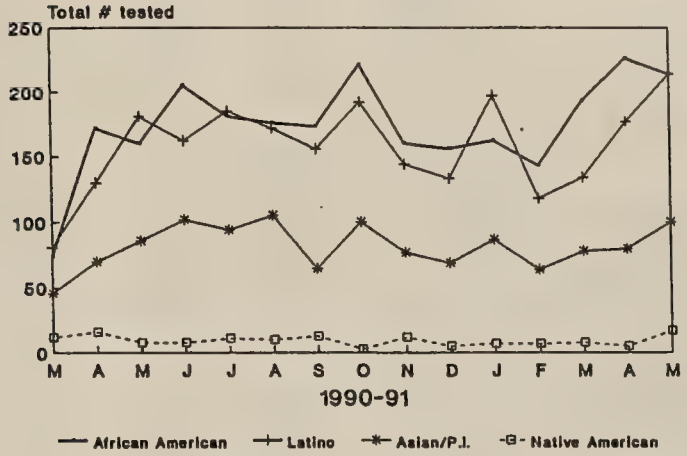

Figure 6. HIV Testing by Ethnic Minorities

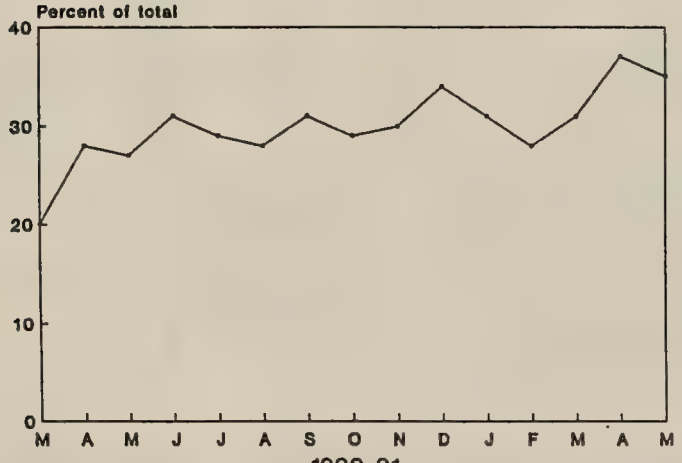

Figure 7. Ethnic Minority HIV Testing as % of Total Testing

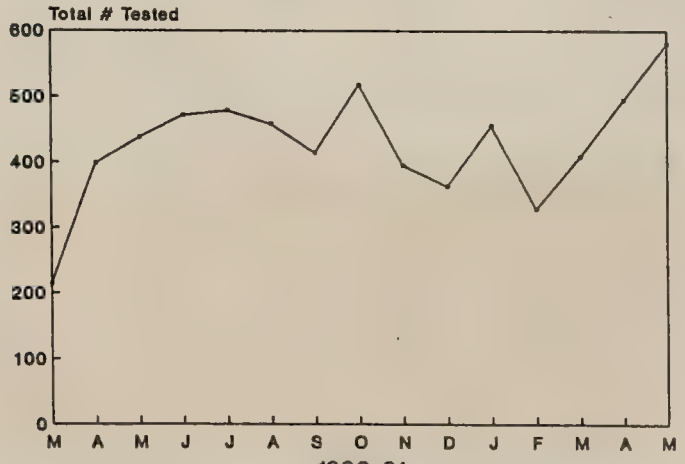

Figure 8. Total HIV Testing by Ethnic Minorities

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING November 30, 1991

DISEASE	CASES REPORTED WEEKS 45 THROUGH 48			TOTAL CASES REPORTED TO DATE		
	1989	1990	1991	1989	1990	1991
AIDS	140	167	151	1777	1953	1931
AMEBIASIS	14	16	26	282	287	297
CAMPYLOBACTERIOSIS	42	46	61	619	720	747
CHANCROID	4	1	–	16	44	2
CHLAMYDIAL INFECTIONS	197	233	161	1759	2630	2220
GIARDIASIS	19	16	25	375	320	294
GONORRHEA	317	270	268	4429	3877	3133
H. INFLUENZAE INVASIVE DISEASE	–	1	2	25	24	14
HEPATITIS Type A	21	34	57	247	254	350
HEPATITIS Type B	7	20	2	77	132	71
HEPATITIS Non A - Non B	–	3	–	8	9	4
LISTERIOSIS	2	–	3	16	10	16
LYME DISEASE	–	1	1	8	2	4
MALARIA	1	3	–	38	28	8
MEASLES	1	–	–	11	37	3
MENINGOCOCCAL INFECTIONS	1	1	–	15	8	6
PELVIC INFLAMMATORY DISEASE		19	23		297	200
PERTUSSIS	–	–	–	7	3	5
RUBELLA	1	–	–	2	1	1
SALMONELLOSIS	20	21	28	212	198	183
SHIGELLOSIS	22	29	15	380	332	257
SYPHILIS, Total	45	57	52	579	870	635
SYPHILIS, Primary & Secondary	18	25	12	211	353	177
TUBERCULOSIS	22	17	24	259	310	307
TYPHOID FEVER	–	–	7	7	2	9
TOTAL DEATHS REPORTED THIS PERIOD	600	603		7593	7829	
Deaths from pneumonia and influenza	23	16		262	253	
Medical Examiner cases	103	114		1452	1428	
Drug-related cases	20	12		231	220	
Cocaine-related cases	11	5		95	109	

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BUREAU OF EPIDEMIOLOGY AND DISEASE CONTROL

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A short analysis of time trends for reported diseases in San Francisco, 1970-1991

AIDS For the first time since AIDS has been reportable fewer cases were reported in 1991 than in the preceding year. A projection made in November 1986 by the AIDS Office suggested a leveling in number of new cases by 1988. The total number of new cases projected through 1988 was 5,101 with a range from 3,686-6,516. The observed total was 5,801.

Campylobacteriosis San Francisco requested reports of this disease in 1981, but it did not become reportable statewide until 1989. Increasing numbers of cases over this period probably reflect both diagnosing and reporting changes. This disease has been described in a previous article (February 1991).

Giardiasis This infection was recognized as a part of the "gay bowel syndrome" and was subsequently included in a screening program to identify intestinal parasites in gay men. The program began in 1985 and ended in 1990. It created a change in reports such that the reported numbers alone cannot be used to fully describe changes in incidence over time.

H. influenzae Invasive Disease San Francisco became a part of an active surveillance project for this infection in 1989. Reports prior to this are too few for reliable comparison. Total numbers of cases probably do not adequately reflect the effect of infant immunization. In 1989 there were 10 cases reported in infants less than one year. In 1990 and 1991 combined there were only 3 cases reported in the same age group. These numbers by themselves are too small to be significant but they mirror numbers reported by many jurisdictions throughout the country and probably indicate the effect of infant immunization. In the years 1989 - 1991 a total of 48 cases were reported in individuals 19 years or older. Fifteen of these were in immune-suppressed individuals.

Hepatitis San Francisco is currently experiencing an outbreak of hepatitis A; data on the disease and the current outbreak will be analyzed in an upcoming issue of this bulletin. Hepatitis B has been described in a previous article (April 1990). Last year continued a downward trend for hepatitis B that was initially related to changes in gay sexual behavior and now seems to be related to the increasing use of clean needles by IV drug users. Reports of unspecified hepatitis are reduced; this is a catchall category for disease which has been incompletely diagnosed. The expectation is that this category will be reduced to zero as completion of diagnosis is increased.

Listeriosis The increase in cases in 1987 was noted at the time, but no particular source could be identified despite fairly extensive efforts.

Lyme Disease San Francisco has reported indigenous infection (tick bite within the county) but only a few cases of Lyme disease in county residents have been reported.

Vaccine Preventable Diseases San Francisco showed an increase in measles cases during the 1990 epidemic in the state, but escaped the epidemic proportion of disease seen elsewhere. We continue to report small numbers of cases of rubella, mumps and pertussis. Limited data available indicate that the "toddler gap", of children unimmunized between 18 months when vaccine should be given and five years when vaccine is required for school, is as much a problem in this community as elsewhere. Greater diligence in immunizing children in this age group is called for.

Salmonellosis Salmonellosis has remained more or less steady over the years. This organism is a naturally occurring contaminate of food. This disease has been described in a previous article (June 1991).

Shigellosis Shigellosis is a sexually transmitted disease in gay men and tends to cycle with levels of gay sexual activity. This disease has been described in a previous article (June 1991).

Tetanus This is a rare but preventable disease. In 1990, one case of tetanus was reported. In San Francisco, as elsewhere, an overwhelming proportion of reported cases occurs in patients older than 60. Tetanus boosters are important in this age group.

Tuberculosis Though the number of cases has remained relatively stable over this time period, there have been changes in the demographic profile of the disease. Major change in the last 21 years include the influx of Southeast Asian refugees who arrived between 1978-1981. A more recent upward trend in the incidence of TB reflects the influence of HIV infection (October 1991).

Typhoid Fever Typhoid fever is primarily an infection acquired outside the United States. Occasional domestic infections do occur and the health department continues diligent follow-up efforts with all infected individuals in order to completely contain this disease.

Sexually Transmitted Disease Total numbers of reported cases obscure important trends in various age and/or ethnic groups. Syphilis has been reported (January 1990, January 1991); STDs as a group have previously been described (March 91) and will be reported in a future issue of this bulletin.

AIDS
Amebiasis
Anthrax
Botulism (All Types)
Brucellosis
Campylobacteriosis
Cholera
Coccidioidomycosis
Congenital Rubella Syndrome
Conjunctivitis, Acute Newborn
Cryptosporidiosis
Cysticercosis
Dengue
Diarrhea of the Newborn (Outbrea
Diphtheria
Encephalitis, Total
Viral
Bacterial
Fungal
Parasitic
Unknown
Foodborne Illness (Poisoning) Ca
Number of Outbreaks
Giardiasis
Haemophilus influenzae, Invasive
Hepatitis A
Hepatitis B
Hepatitis B Carrier
Hepatitis D (delta)
Hepatitis non-A, non-B
Hepatitis unspecified
Kawasaki Syndrome
Legionellosis
Leprosy (Hansen's Disease)
Leptospirosis
Listeriosis
Lyme Disease
Malaria
Measles (Rubeola)
Meningitis, Total
Viral
Bacterial
Fungal
Parasitic
Unknown
Meningococcal Infections, Total
Meningitis
Meningococcemia
Other
Mumps
Pertussis (Whooping Cough)
Plague
Poliomyelitis
Psittacosis
Q-Fever
Rabies, Animal
Rabies, Human
Relapsing Fever
Reye Syndrome
Rheumatic Fever, Acute
Rocky Mountain Spotted Fever
Rubella (German Measles)
Salmonellosis
Shigellosis
Streptococcal Infections, Total
Foodhandlers
Dairy Workers
Tetanus
Toxic Shock Syndrome
Trichinosis
Tuberculosis
Tularemia
Typhoid Fever Cases
Typhus
Yellow Fever
Others
SEXUALLY TRANSMITTED DISEASE (STD
Chancroid
Chlamydial Infections
Gonococcal Infections, Total
Granuloma Inguinale
Lymphogranuloma Venereum
Non-Gonococcal Urethritis
Pelvic Inflammatory Disease
Syphilis, Total
Primary
Secondary
Early Latent
Late and Late Latent
Congenital
TOTAL DEATHS REPORTED THIS PERIOD
Deaths from Pneumonia/Influenza
Medical Examiner cases
Drug-related cases
Cocaine-related cases

1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
										24	94	248	502	753	1121	1456	1603	1913	2094	2051
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				1					2	3	1	1					1	1	1	
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										40	221	274	344	491	656	406	529	666	781	788
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2	6	2	4	2	1	1	16	7	3	3	3	0	3	8	3	2	8	7	5	3
								2	7	1	1	2								
																		38	123	144
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									286	214	186	163	321	523	398	301	410	397	349	314
															5	6	4	26	24	19
767	542	696	480	647	912	686	595	866	1004	829	232	227	87	172	131	167	264	265	272	384
123	86	161	144	241	334	340	335	579	872	715	462	292	263	200	151	170	104	88	154	80
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2	3	5	1	5	1			17	9	25	7	7		54	11	9	1	3	8	1
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4	5	7	5	10	13	10	16	39	188	45	30	21	42	30	28	18	22	39	29	8
191	53	11	93	481	29	49	14	52	27	2	4	8	16	1	2	12	5	11	37	3
																	14	36	32	41
33	41	46	15	32	40	33	42	38					9	14	11	1	13	29	18	28
9	4	5	6	2	5	6	5		30	33	28	12	6	9		2	1	5	7	7
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10	5	9	1	4	2	4		13	11	13	13	5	4	8	11	7	3	16	8	6
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96	230	84	91	215	31	27	17	9	18	7	6	3	14	11	9	7	7	1	6	5
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171	139	122	110	107	161	143	141	118	151	164	137	193	185	210	250	218	235	226	213	198
159	254	208	189	346	602	377	468	497	523	534	472	469	420	371	422	424	429	404	361	274
55	58	122	119	187	186	325	370	447	606	406	414	402	335	328	292	303	178	24		
												2							1	
																		2	1	2
		1															1			
312	294	309	306	345	331	285	340	471	493	387	300	318	273	308	284	321	314	284	334	336
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5	6	11	1	8	7	5	5	10	18	12	8	5	10	11	6	3	18	8	2	9
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												84	15	121	131	104	286	254	353	74
2	2			1									1				1	20	47	2
																		1999	2834	2385
13254	13067	13251	14354	16034	17088	16558	18036	18640	17600	17065	13643	9651	8541	7161	6140	6354	6657	4798	4165	3377
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3	3	1	3										4						4	1
																			2569	2923
																			315	213
1399	1399	1670	1746	1946	1754	1683	1335	1238	1502	1890	2102	1932	1355	967	806	686	633	644	928	675
								350	380	442	460	398	269	169	134	88	105	120	187	82
								244	342	559	711	692	517	340	221	163	127	119	192	93
								606	744	814	850	795	502	348	287	196	183	152	218	158
								27	36	75	70	47	73	110	163	237	218	252	315	325
															1	2		1	16	7
														8637	8316	8508	8678	8597	8489	8549
														301	267	277	255	324	285	273
																			1579	1565
																			241	238
																			104	120

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING December 28, 1991

DISEASE	CASES REPORTED WEEKS 49 THROUGH 52			TOTAL CASES REPORTED TO DATE		
	1989	1990	1991	1989	1990	1991
AIDS	136	141	120	1913	2094	2051
AMEBIASIS	33	31	18	315	318	315
CAMPYLOBACTERIOSIS	47	61	41	666	781	788
CHANCROID	4	3	–	20	47	2
CHLAMYDIAL INFECTIONS	227	204	165	1986	2834	2385
GIARDIASIS	22	29	20	397	349	314
GONORRHEA	369	288	244	4798	4165	3377
H. INFLUENZAE INVASIVE DISEASE	1	–	5	26	24	19
HEPATITIS Type A	18	18	34	265	272	384
HEPATITIS Type B	11	22	9	88	154	80
HEPATITIS Non A - Non B	2	–	–	10	9	4
LISTERIOSIS	1	–	1	17	10	17
LYME DISEASE	–	–	–	8	2	4
MALARIA	1	1	–	39	29	8
MEASLES	–	–	–	11	37	3
MENINGOCOCCAL INFECTIONS	1	–	–	16	8	6
PELVIC INFLAMMATORY DISEASE		18	13		315	213
PERTUSSIS	–	–	–	7	3	5
RUBELLA	–	–	–	2	1	1
SALMONELLOSIS	14	15	15	226	213	198
SHIGELLOSIS	24	29	17	404	361	274
SYPHILIS, Total	65	58	40	644	928	675
SYPHILIS, Primary & Secondary	28	26	8	239	379	185
TUBERCULOSIS	25	24	29	284	334	336
TYPHOID FEVER	1	–	–	8	2	9

TOTAL DEATHS REPORTED THIS PERIOD				
	703	720	8296	8549
Deaths from pneumonia and influenza	23	20	285	273
Medical Examiner cases	127	137	1579	1565
Drug-related cases	10	18	241	238
Cocaine-related cases	7	11	102	120

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Vol. 8, No. 2 February 1992

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

5 Epidemiology of reportable sexually transmitted diseases in San Francisco, 1987–1991

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Epidemiology of reportable sexually transmitted diseases in San Francisco, 1987–1991

Control of sexually transmitted diseases (STDs) is one of the oldest mandates of the San Francisco Department of Public Health. The following is an assessment of STDs in San Francisco in 1991 and trends in STD morbidity over the past five years.

Source of data. Under Title 17, the California Administrative code requires all laboratories that isolate or identify a reportable STD agent and all health care providers who diagnose a reportable STD case to submit the name of the infected patient, and his or her demographics to the local health department. Required demographic data includes name, address, sex, date of birth and race/ethnicity. As of 1990, reportable STDs in California include the following: syphilis, gonorrhea (including penicillinase-producting ***Neisseria gonorrheae*** [PPNG]), chlamydia, pelvic inflammatory disease (PID), non-gonococcal urethritis (NGU), chancroid, lymphogranuloma venereum, and granuloma inguinale.

Case data are reported confidentially by mail, telephone, and fax machine to the Division of STD Control, San Francisco Department of Public Health. Active surveillance for STDs consists of yearly audits of San Francisco laboratory records to discover unreported cases. No audits have been done among private providers.

City Clinic, the Health Department's public STD clinic, was the single greatest source of STD reports: of the 5,845 STDs reported in 1991, 40.4 percent were diagnosed at City Clinic (Table 1). Other public clinics and hospitals reported 23.5 percent of all STDs, and private hospitals and providers reported 34.9 percent.

There have been only 22 reports of lymphogranuloma venereum and two reports of granuloma inguinale since 1985. The focus of this report, therefore, will be on gonorrhea, syphilis, chlamydia, and chancroid, with PID cases included in gonorrhea and chlamydia totals.

Trends. Reports of STDs in San Francisco peaked in the second quarter of 1990. As seen in Table 2, the reported cases of each STD were less in 1991 than 1990. Syphilis and gonorrhea totals were at a five-year minimum last year. Only one culture-confirmed case of chancroid was seen in 1991. Even chlamydia reports, which have risen steadily with awareness of reporting requirements, have declined.

In the five year period all race-specific rates for gonorrhea and early syphilis decreased (Figures 1 and 2). The syphilis rate among African Americans decreased dramatically from 1990 to 1991, to a level below the rate of 1989. Other race-specific rates did not increase over the period 1988–1990 as did the rate for African Americans.

Editorial note: Syphilis and chancroid rates are now declining as gonorrhea rates have been for the past four years. These 1991 findings represent the first time in five years that all STDs have shown the same trend.

We have previously attributed the increase in syphilis among African Americans to increases in crack cocaine in use. Anecdotal reports of decreases on crack-related arrests by the police department and crack-related admissions to major San Francisco hospitals suggest that efforts to decrease crack cocaine use may be succeeding; this may explain the dramatic decline in the syphilis rate in this community.

Audits of laboratories have revealed that there are a significant number of STD cases that are not reported by clinicians to the Department of Public Health. Even if all positive STD tests and isolates were reported by all laboratories, there would still be many unreported persons with STDs who are treated empirically without diagnostic testing, or who are asymptomatic and do not seek medical care. Because of these problems, the figures reported above should only be interpreted as minimum estimates of the true incidence of STDs in San Francisco.

It should also be noted that minority populations may be overrepresented in the STD surveillance database. Therefore, the differences between racial/ethnic groups may not be as great. However, the actual changes in incidence over time should not be greatly affected by this artifact.

Planning effective STD prevention and intervention strategies ultimately depends on the quality of surveillance data. Improving reporting of STDs (particularly chlamydia, NGU, and PID) and completeness of demographic data on reported cases (including the race/ethnic origin, date of birth, gender and address) is a priority for the Division of STD Control.

Any health care provider needing confidential morbidity reporting cards or general information on how to report STDs should contact: Alberto Martinez, STD Surveillance Coordinator, at 864-8100.

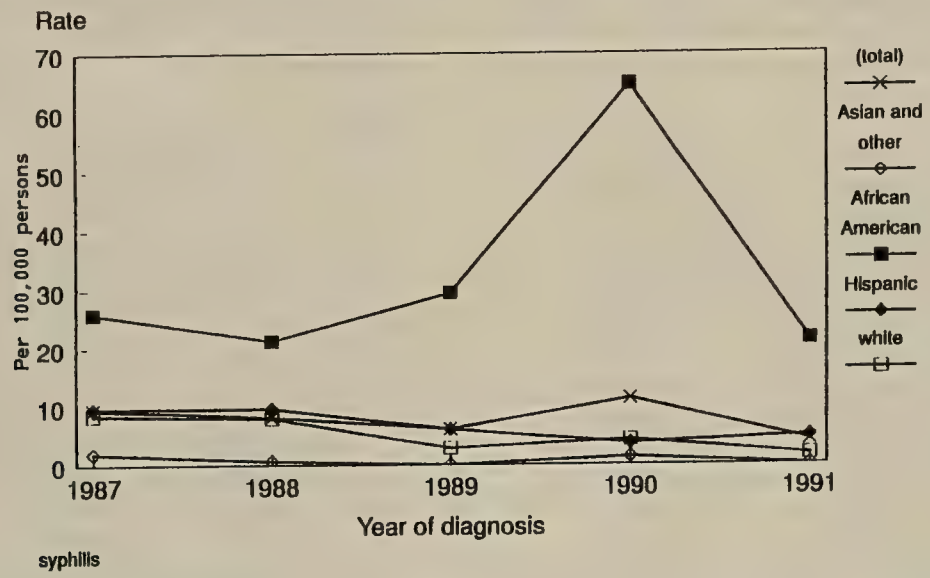

Figure 1. Race-specific early syphilis rates*, San Francisco 1989-1991, rates based on 1980 vs census data

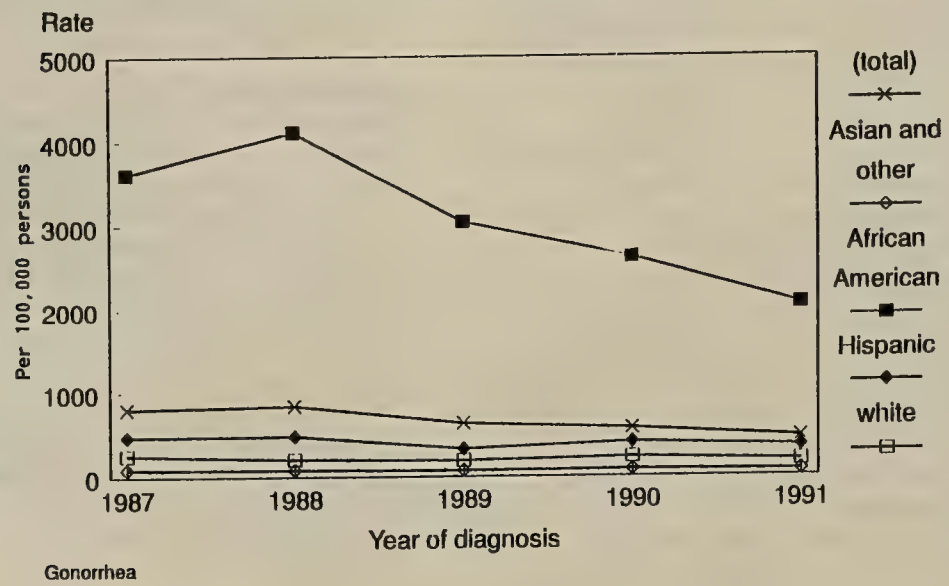

Figure 2. Race-specific gonorrhea rates*, San Francisco, 1989-1991

Table 1. STDs reported in San Francisco 1991 by type of health care provider, with percent of all reported STDs attributed to provider

	Diagnosis											
	Chancroid (Confirmed) Cases		Chlamydia Cases		Total Gonorrhea Cases		PPNG Cases		Early Syphilis Cases		Total Reported Cases	
	N	%	N	%	N	%	N	%	N	%	N	%
Health Care Provider												
CITY CLINIC	1	100	592	26.1	1533	48.7	223	54.9	12	42.8	2361	40.4
PRIVATE	0	0	1088	48.0	847	26.9	97	23.8	9	32.1	2041	34.9
OTHER PUBLIC	0	0	556	24.5	725	23.0	83	20.4	7	25.0	1371	23.5
OUT OF JURISDICTION	0	0	27	1.1	42	1.3	3	0.7	0	0.0	72	1.2
TOTAL	1	100	2263	100.0	3147	100.0	406	100.0	28	100.0	5845	100.0

Table 2. Total reported STD cases and incidence rates* San Francisco, 1985–1990 (denominators from 1980 US Census data)

	Diagnosis									
	Chancroid (Confirmed)		Chlamydia		Total Gonorrhea		PPNG		Early Syphilis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Year of Diagnosis										
87	1	0.5	not		5441	801.36	44	6.48	64	9.43
88	8	1.18	reportable		5697	839.06	46	6.77	55	8.10
89	24	3.53	1913	281.75	4290	631.84	202	29.75	41	6.04
90	35	5.15	2676	394.12	3867	569.54	417	61.42	76	11.19
91	1	0.15	2263	333.30	3147	463.49	406	59.80	28	4.12

Table 3. Total reported STD cases and incidence rates* by race/ethnicity San Francisco, 1991 (denominators from 1980 US Census data)

	Diagnosis									
	Chancroid (Confirmed)		Total Chlamydia		Gonorrhea		PPNG		Early Syphilis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Ethnic Origin										
ASIAN/PACIFIC ISLANDER	0	0.00	215	138.19	116	74.56	19	12.21	0	0.00
AFRICAN AMERICAN	0	0.00	804	947.48	1745	2056.40	295	347.64	18	21.21
HISPANIC	0	0.00	318	381.42	296	355.03	24	28.79	4	4.80
UNKNOWN	0	–	583	–	315	–	31	–	0	–
WHITE	1	0.28	343	96.58	675	190.05	37	10.42	6	1.69

*Per 100,000 persons.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING February 1, 1992

DISEASE	CASES REPORTED WEEKS 1 THROUGH 5			TOTAL CASES REPORTED TO DATE		
	1990	1991	1992	1990	1991	1992
AIDS	219	161	152	219	161	152
AMEBIASIS	24	31	18	24	31	18
CAMPYLOBACTERIOSIS	49	63	56	49	63	56
CHANCROID	4	1		4	1	
CHLAMYDIAL INFECTIONS	248	258	221	248	258	221
GIARDIASIS	36	34	34	36	34	34
GONORRHEA	398	409	322	398	409	322
H. INFLUENZAE INVASIVE DISEASE	1	3		1	3	
HEPATITIS Type A	34	23	54	34	23	54
HEPATITIS Type B	10	3	10	10	3	10
HEPATITIS Non A - Non B						
LISTERIOSIS	1	2	1	1	2	1
LYME DISEASE						
MALARIA	3	1		3	1	
MEASLES						
MENINGOCOCCAL INFECTIONS	1	2	1	1	2	1
PELVIC INFLAMMATORY DISEASE	32	29	18	32	29	18
PERTUSSIS		1			1	
RUBELLA						
SALMONELLOSIS	18	18	13	18	18	13
SHIGELLOSIS	21	26	26	21	26	26
SYPHILIS, Total	86	65	56	86	65	56
SYPHILIS, Primary & Secondary	39	29	10	39	29	10
TUBERCULOSIS	25	31	29	25	31	29
TYPHOID FEVER		1	2		1	2
TOTAL DEATHS REPORTED THIS PERIOD	923	1011		923	1011	
Deaths from pneumonia and influenza	42	30		42	30	
Medical Examiner cases	177	182		177	182	
Drug-related cases	15	30		15	30	
Cocaine-related cases	5	17		5	17	

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Vol. 8, No. 3/4 March/April 1992

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

9 Childhood Lead Poisoning Surveillance
15 Availability of Varicella Vaccine for Children with Acute Lymphocytic Leukemia

Childhood Lead Poisoning Surveillance San Francisco, 1991

Lead poisoning is the most significant and preventable environmental health problem of children in the US. Evidence accumulated over the last 15 years from epidemiologic, clinical, and toxicologic studies indicates that levels as low as 10 micrograms per deciliter (ug/dl) are associated with neurobehavioral, cognitive, and developmental effects. In 1991, the US Centers for Disease Control (CDC) set the recommended level for defining lead poisoning in children at 10 ug/dl or higher, lowering it from levels of 25 or higher which had been set in 1985 (1).

Lead-based paint is the major source of childhood lead poisoning in this country. The US Agency for Toxic Substances and Disease Registry (ATSDR) has ranked the San Francisco-Oakland metropolitan area ninth with children at risk of lead poisoning from older homes with lead-based paint (2). The 1980 Census reported that 233,569 San Francisco (SF) dwellings, or 74% of all city housing, were built before 1950. This older housing stock poses a much greater hazard from lead than newer housing. The house paint industry voluntarily reduced the lead content in the 1950's but it was not until 1978 that the federal government regulated safe levels of lead in paint for residential use.

In 1973, the SF Department of Public Health (DPH) screened 1000 children aged 1 to 6 years for blood lead levels using capillary blood (3). Approximately 50% of the children had levels above 20 ug/dl, and 0.9% had levels above 50. At that time, the level considered toxic was 40 ug/dl. Because none of the children was symptomatic, it was concluded that lead poisoning was not a problem in SF. As a result, to our knowledge, there was very little routine screening done in subsequent years. This report presents the results of a screening and surveillance effort begun in 1991 to quantify and describe childhood lead poisoning (CLP) in a sample of SF resident children.

Methods. In 1978, the California Department of Health Services (CDHS, unpublished data) determined which census tracts in SF might be expected to have the larger numbers of lead-poisoned children. Using census geographical data, the analysis considered number and proportions of pre-1940 housing units, number of families, number of children aged 3 and 4 years, and proportion of families below poverty. The areas of concern were the Mission, Hunter's Point, Bayview, Fillmore/Western Addition, and Chinatown.

The primary focus of our lead screening efforts was through the Child Health and Disability Prevention Program (CHDP). The CHDP integrates testing for lead into a comprehensive health screening and immunization program. It provides reimbursement to health care providers for health assessment services and provides follow-up to assure referral to appropriate care.

We identified high-volume CHDP providers located in and serving the above mentioned communities and recruited several to actively screen children aged 9 months through 5 years for lead on venous blood samples. Laboratories utilized were registered and current with the CDHS Air and Industrial Hygiene Laboratory (AIHL) Blood Lead Proficiency Assurance Program. The method used by 3 of these labs was the anodic stripping voltammetry (ASV) with a detection level of 5 ug/dl, and one lab used graphite furnace atomic absorption with a detection level of 2 ug/dl.

Results were gathered through logs in provider settings or via direct reports from the labs. Demographic data (age, sex, race, address) were gathered from the CHDP billing form or through computer retrieval at the provider site. In order to maintain timely case management, most cases of lead poisoning at levels $\geq$ 15 ug/dl were telephone reported to the DPH. To reduce reporting bias, we excluded those cases from the present analysis where data was not included on other children screened by the respective provider. We then analyzed the distribution and prevalence of lead poisoning by sex, age, race, and zip code of residence. Data involving intervention and follow-up is not presented here but will be included in a future report.

Results. From April through December of 1991, we received reports of 1692 patients screened. Of these, 163 were not SF residents; data are incomplete for 117; and 212 were aged over 5 years. One lead poisoned child was excluded from analysis because data on other children screened by the provider were unavailable to us. The analysis presented here covers the remaining 1199 SF resident children aged under 6 years for whom we have complete data.

From an initial group of 3, screening provider sites grew to 24 and included several non-CHDP providers. Providers at community clinics did 50% of the screening; hospital-based pediatric clinics, 32%; private practitioners, 16%; and DPH district health centers, 2%. The number of children screened per month grew more than fourfold from May through October with a drop over the holidays.

Ninety-nine children had lead poisoning, i.e., blood lead levels $\geq$ 10 ug/dl, for an overall prevalence of just over 8% (Table 1). None of the children was symptomatic. The prevalence is greater in males than in females. This also varies by age, with under 11% of 1-year olds having toxic levels compared to 4% of 4-year olds. In this sample, about 17% of White and 11% of African American children are lead poisoned compared to 7% of Latinos.

Of the 99 lead poisoned children (Figure 1), 45 had levels $\geq$ 15 ug/dl for a prevalence of 3.8% (95% Confidence Interval (CI) 2.7, 4.9). Twenty children had levels $\geq$ 20 ug/dl for a 1.7% (CI 1.0, 2.4) prevalence, and 8 children had levels $\geq$ 25 ug/dl, a prevalence of 0.7% (CI 0.2, 1.2).

Figures 2 and 3 present the distribution by census tract of the children screened and of those lead poisoned. These figures show that lead poisoned children can be found throughout the city-county; however, they are concentrated in the higher risk areas as predicted by the CDHS, and in the areas where most of the children screened resided. Prevalence by census tract is not presented because the small numbers involved preclude meaningful comparisons.

Although 1 out of 12 children screened had levels of 10 ug/dl or higher, just under 4%, or 1 of every 26 children, had levels of 15 ug/dl or higher. This might compare favorably with the estimate by ATSDR that 17% of children within Standard Metropolitan Statistical Areas (SMSAs) nationwide have such levels (2), or with the 19% of children having such levels in a study in Oakland conducted by the CDHS (4). However, it is important to note that a direct comparison with these studies cannot be made.

The ATSDR estimate is based on data from the National Health and Nutrition Examination Survey II (NHANES) which omitted Latinos and Asians, groups that make up nearly 75% of our sample. The CDHS Oakland figure is based on screening done in targeted high risk neighborhoods by door-to-door sampling. Our screening was an open sampling and may be biased in reflecting the prevalence in families who are motivated enough not only to seek preventive medical care but to go through the blood drawing procedure. Our study may underestimate the possibly higher risk in families with health care access problems or who seek only crisis care but who are, nonetheless, in high exposure situations.

According to the old CDC lead poisoning definition of levels $\geq$ 25 ug/dl, just under 1% of these children or about 1 of every 140 children screened is poisoned. The ATSDR national estimate for these levels is 1.4%, and the CDHS Oakland study result was 1.3%. A better comparison might be with findings in 1988 from surveillance in New York City where screening was done at multiple sites as well as door-to-door (5). Their prevalence of these levels for the multi-site screening was 0.28% compared to 1.17% for the door-to-door sampling. Although the New York figures are probably underestimates because they included a capillary erythrocyte protoporphyrin (EP) screening phase (an insensitive and non-specific preliminary screening test for lead poisoning), the results are very similar to the prevalence of these levels in our sample. Indeed, we would expect a higher prevalence on sampling door-to-door in high risk SF neighborhoods than reported here.

The predominance, and higher prevalence, of 1 and 2-year olds as lead poisoned is consistent with data reviewed by the CDC and which formed the basis for their recommendations for screening (1). Toddlers are at highest risk for lead exposure in contaminated environments because of normal mouthing behavior and increased hand contact with dirt and dust.

The predominance of Latino children as poisoned is attributable to the larger numbers of them screened in comparison to other groups, and reflects the committed active screening efforts and cooperation by providers serving that community. Even though Latino children make up most of the cases of lead poisoning, the data suggest that they may have a lower risk than other groups (Table 1). African-American and White children in this sample appear to have higher risks. This is probably due, at least in part, to the differences in the respective numbers of children screened. The prevalence estimates for African-American and especially for White children compared with that for Latinos are less stable, as reflected in wider confidence intervals. For more stable estimates, we would need about 400-500 children per group.

The distribution of the lead poisoned children by census tract demonstrates sampling bias; because most of the screening occurred in the Mission District, most of the lead poisoning was found there. A widespread screening of children from throughout SF would likely show a widespread distribution of lead poisoning.

There is a reporting bias since we tended to collect data more on lead poisoned children than on children with lower levels; of the 117 persons for whom we had incomplete data, only 4 had levels greater than 9 and none had levels over 14 ug/dl. Another potential limitation of this surveillance is that testing was done by several labs. However, because all labs are registered and current with the CDHS lead testing proficiency program, we assumed that quality control assured no systematic over- or under-reading of blood lead tests.

Reported by: Bureau of Epidemiology and Disease Control, San Francisco Department of Public Health.

Editorial Note: The expansion of screening activities and the cooperation in sharing data

demonstrate the concern and willingness of San Francisco's health care providers to work toward assessing children's health problems and responding to them. It also demonstrates that widespread screening is feasible for the whole county, and that it is valuable in finding children with unsuspected lead poisoning in order to offer intervention. Preliminary analysis suggests that about 85% of those children with initial levels of 20 ug/dl or higher have markedly lower levels on follow-up after intervention.

This picture gives us only a hint of the CLP problem in San Francisco. We cannot infer that the prevalence found here applies to the approximate 44,000 SF child population aged birth through 5 years. Because this was a convenience sampling and not all were CHDP tests, we cannot even infer that this applies to the whole of the CHDP population which is estimated at 70% of the total for this age group, or about 30,800 children. Our sample was made up of less than 4% of the CHDP children of this age group. We will need an album of "pictures" to fully understand CLP in SF, and each picture may be a little different from the one presented here. Whatever the true prevalence of CLP in San Francisco, this effort has demonstrated that CLP is a significant problem and it is clear that efforts toward primary prevention are required to adequately address the hazards to the public health.

Efforts are needed to expand screening county-wide. Health care providers should be encouraged to screen all children aged 9 months through 5 years as recommended by the CDC. All children should have access to and easy availability of screening services, regardless of residence, socioeconomic status, race, or eligibility for CHDP.

Community-based screening is needed in order to assess the higher risk areas. This would involve screening all children in a smaller community, as by door-to-door sampling, and would include children with limited access to primary care. The neighborhoods identified as having the higher numbers of lead poisoned children are ideal starting points for such efforts. By referring all children to comprehensive primary care, this outreach would facilitate receipt of other benefits, such as vaccinations.

Presently, there are no abatement requirements in San Francisco, even when a lead poisoned child is identified. Efforts to establish abatement regulations or other rules and standards are needed. Efforts are also needed to establish funding sources for abatement and to facilitate funding acquisition, especially for property owners or tenants seeking to abate lead hazards.

To increase awareness of the dangers and help reduce the risk of lead poisoning in the community, education and training efforts are required at several levels. This should include the general community, health care providers, local officials, property owners, day-care providers and educators, business leaders, housing rehabilitation workers, and advocacy groups.

In order to monitor the changing picture of childhood lead poisoning over time, we should continue, and improve, surveillance efforts. This may entail a requirement for the collection of data on all blood lead testing done in the county and on environmental testing for lead in dwellings. With such data, periodic analyses and reports will help direct resources and guide primary prevention efforts and policy.

References

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TABLE 1. Childhood lead poisoning, San Francisco, 1991

VARIABLE	SCREENED		LEAD POISONED (>= 10 mcg/dl)		
	No.	Pct.	No.	Pct. of Poisoned	Prevalence 95% C.I.
FEMALE	563	47.0%	38	38.4%	6.7% (4.6, 8.8%)
MALE	636	53.0%	61	61.6%	9.6% (7.3, 11.9%)
< 1 YEAR	158	13.2%	12	12.1%	7.6% (3.5, 11.7%)
1 YEAR	339	28.3%	36	36.4%	10.6% (7.3, 13.9%)
2 YEARS	235	19.6%	21	21.2%	8.9% (5.3, 12.5%)
3 YEARS	194	16.2%	15	15.2%	7.7% (3.9, 11.5%)
4 YEARS	172	14.3%	7	7.1%	4.1% (1.1, 7.1%)
5 YEARS	101	8.4%	8	8.1%	7.9% (2.6, 13.1%)
AFRICAN AMER	215	17.9%	23	23.2%	10.7% (6.6, 14.8%)
ASIAN	237	19.8%	18	18.2%	7.6% (4.2, 11.0%)
CAUCASIAN	76	6.3%	13	13.1%	17.1% (8.6, 25.6%)
LATINO	651	54.3%	45	45.5%	6.9% (5.0, 8.8%)
OTHER	20	1.7%	0	---	---
TOTAL	1,199		99		8.3% (6.7, 9.9%)

FIGURE 1. Childhood lead poisoning * prevalence by lead level, San Francisco, 1991

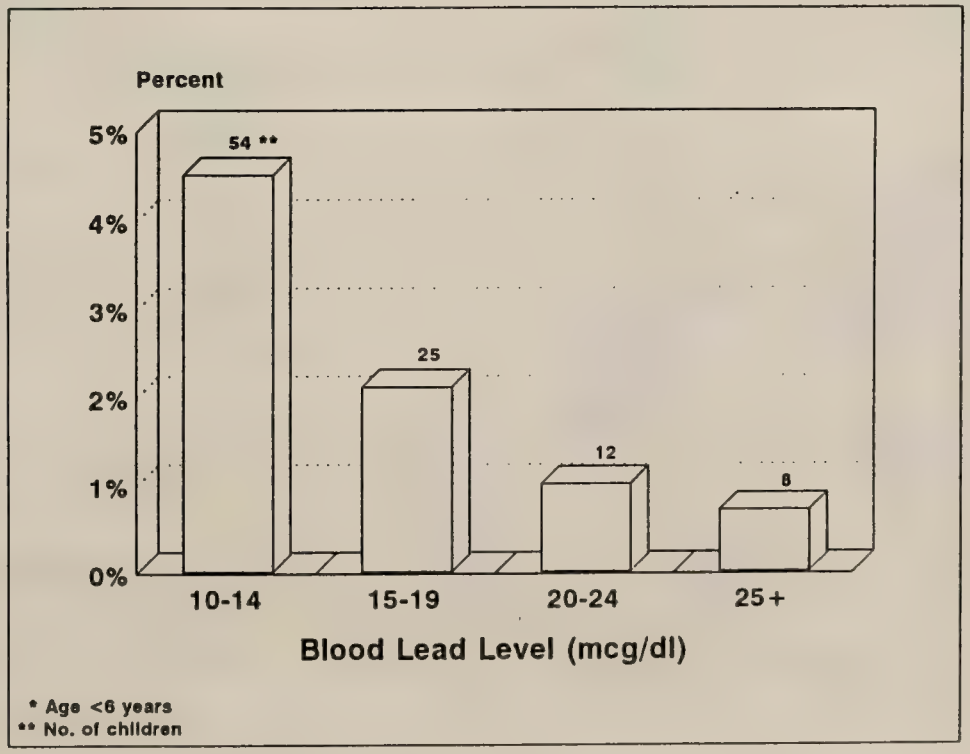

FIGURE 2. Childhood blood lead screening* by census tract, San Francisco, 1991

FIGURE 3. Childhood lead poisoning* by census tract, San Francisco, 1991

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING February 29, 1992

DISEASE	CASES REPORTED WEEKS 6 THROUGH 9			TOTAL CASES REPORTED TO DATE		
	1990	1991	1992	1990	1991	1992
AIDS	172	195	167	391	356	319
AMEBIASIS	19	22	25	43	53	43
CAMPYLOBACTERIOSIS	39	39	48	88	102	104
CHANCROID	2	1		6	2	
CHLAMYDIAL INFECTIONS	198	203	181	446	461	402
GIARDIASIS	22	13	19	58	47	53
GONORRHEA	357	212	231	755	621	553
H. INFLUENZAE INVASIVE DISEASE	-	1		1	4	
HEPATITIS Type A	17	23	35	51	46	89
HEPATITIS Type B	13	5	12	23	8	22
HEPATITIS Non A - Non B		1			1	
LISTERIOSIS	-	1	-	1	3	1
LYME DISEASE						
MALARIA	2	-		5	1	
MEASLES	1	1	1	1	1	1
MENINGOCOCCAL INFECTIONS	1	2	1	2	4	2
PELVIC INFLAMMATORY DISEASE	40	18	13	72	47	31
PERTUSSIS		1	1		2	1
RUBELLA			1			1
SALMONELLOSIS	13	25	8	31	43	21
SHIGELLOSIS	15	22	24	36	48	50
SYPHILIS, Total	72	61	50	158	126	106
SYPHILIS, Primary & Secondary	27	21	11	66	50	21
TUBERCULOSIS	20	25	31	45	56	60
TYPHOID FEVER		-	-		1	2
TOTAL DEATHS REPORTED THIS PERIOD	690	710		1613	1721	
Deaths from pneumonia and influenza	21	26		63	56	
Medical Examiner cases	135	123		312	305	
Drug-related cases	13	23		28	53	
Cocaine-related cases	5	13		10	30	

Availability of Varicella Vaccine for Children with Acute Lymphocytic Leukemia

The CDC has announced that investigational, live attenuated varicella vaccine is available free of charge through Merck Research Laboratories to any physician requesting it for certain pediatric patients (aged 12 months to 17 years) with acute lymphocytic leukemia (ALL). Patients must meet specified criteria, including no clinical history of varicella and continuous remission for at least 12 months.

Varicella vaccine is being provided to this group of patients for use through a study protocol to monitor and evaluate safety. An investigational New Drug application for the vaccine has been filed with the Food and Drug Administration.

Information about eligibility criteria and vaccine administration is available from Dr. Jo White, Merck Reseach laboratories, telephone (215) 834-2554.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING March 28, 1992

DISEASE	CASES REPORTED WEEKS 10 THROUGH 13			TOTAL CASES REPORTED TO DATE		
	1990	1991	1992	1990	1991	1992
AIDS	174	174	178	565	530	497
AMEBIASIS	21	31	13	64	84	56
CAMPYLOBACTERIOSIS	41	67	59	129	169	163
CHANCROID	7	–		13	2	
CHLAMYDIAL INFECTIONS	246	274	199	692	735	601
GIARDIASIS	18	25	16	76	72	69
GONORRHEA	326	278	229	1081	899	782
H. INFLUENZAE INVASIVE DISEASE	2	–		3	4	
HEPATITIS Type A	21	18	42	72	64	131
HEPATITIS Type B	18	12	7	41	20	29
HEPATITIS Non A - Non B	1	–		1	1	
LISTERIOSIS	3	4	1	4	7	2
LYME DISEASE						
MALARIA	1	–	1	6	1	1
MEASLES	5	–	1	6	1	1
MENINGOCOCCAL INFECTIONS	–	–	1	2	4	3
PELVIC INFLAMMATORY DISEASE	41	20	10	113	67	41
PERTUSSIS		–	–		2	1
RUBELLA			–			1
SALMONELLOSIS	8	17	10	39	60	31
SHIGELLOSIS	22	30	18	58	78	68
SYPHILIS, Total	74	70	32	232	196	138
SYPHILIS, Primary & Secondary	36	22	7	102	72	28
TUBERCULOSIS	27	22	32	72	78	92
TYPHOID FEVER		1	–		2	2
TOTAL DEATHS REPORTED THIS PERIOD	684	639		2297	2360	
Deaths from pneumonia and influenza	29	24		92	80	
Medical Examiner cases	104	67		416	410	
Drug-related cases	23	105		51	82	
Cocaine-related cases	12	14		22	44	

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Vol. 9, No. 5/6 May/June 1992

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

17 Tuberculosis in San Francisco, 1991
21 TB and Homelessness

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Tuberculosis in San Francisco, 1991

A report on the epidemiology of tuberculosis (TB) in San Francisco, 1990; recommended guidelines for the prevention of TB transmission; and an alert specifically addressing recommended actions for the prevention of TB among those with HIV infection were published in the October 1991 San Francisco Epidemiologic Bulletin (1). Since that time, there has been increasing professional and public concern about tuberculosis, particularly multiple drug-resistant TB (MDR-TB). This report summarizes the 1991 TB morbidity in San Francisco (S.F.) and presents an analysis of the problem of drug-resistant TB in this city.

In 1991, 333 cases of new active TB were reported to the TB Control Division, San Francisco Department of Public Health. This is a case rate of 46.0/100,000 population, more than four times the case rate in the United States as a whole (10.4/100,000). The number of new active cases has remained fairly stable in San Francisco over the past decade, but the proportion coinfected with AIDS has risen steadily (Figure 1).

Age. The peak incidence of tuberculosis in 1991 was in the 25 - 44 year-old age group (Table 1). Unlike the U.S. as a whole, the elderly make up only a small proportion of TB cases in San Francisco. Of the 12 cases of TB in children under 15, 6 were discovered in the process of evaluating the contacts of known active cases; 4 were discovered as a result of mandatory skin testing upon initial entry into school; and 2 were diagnosed when they presented to a physician with symptomatic disease.

Ethnicity. Case rates were highest among Asian Americans and African Americans, 78 and 84 cases per 100,000 population, respectively (Table 2). Case rates were lowest, 20 per 100,000, among non-Hispanic Whites.

Foreign-born. As in past years, the majority of TB cases reported in S.F. in 1991 were foreign-born (58%). In 1991, 194 cases were foreign-born compared to 196 (59%) in 1990 and 179 (63%) in 1989. Among Asian Americans, the proportion of foreign-born cases is 154 out of 161 (96%).

Homeless/Transient. Homeless/transient refers to persons: living on the streets, living in a shelter, or living in a single room occupancy (SRO) hotel. The number of TB cases among these individuals has risen steadily over the past 3 years (Table 3).

Drug resistance. Resistance to isoniazid (INH) and rifampin (RIF), often called multiple drug-resistant TB (MDR-TB) has become a major problem in New York and in other eastern cities (2). In a survey of State

health departments, the level of co-existing INH and rifampin resistance was assessed among cases reported during the first quarter of 1991. In California, one percent of culture positive cases were resistant to both INH and rifampin (CDC, unpublished data). In San Francisco, 2 out of 333 cases (0.6%) in 1991 were resistant to INH and rifampin on their initial M. tb isolate. Both patients were foreign-born and both had been previously treated. Within the same year an additional patient developed INH/RIF resistance while on therapy.

In total 48 (14%) of 333 new active cases in 1991 had an initial isolate with organisms resistant to one or more anti-TB drugs. Twenty-six (8%) were initially resistant to INH, including the two described above with rifampin resistance (Table 4).

Editorial Note: Conditions which favor increased transmission of tuberculosis are occurring in San Francisco: the presence of large numbers of immunocompromised persons; homelessness and crowding in shelters; an increasing jail population; and high rates of immigration from countries where TB is endemic.

That the case rate among African Americans is higher than among Asian Americans is of note, since the African American cases are almost exclusively American born and acquired their TB infection in the U.S. Among African Americans, there has been a 36% increase in the annual number of active TB cases since 1987. This increase is primarily due to HIV infection.

The mandatory screening of all new school entrants has been productive not only in finding candidates for INH preventive therapy, but has also yielded cases of active TB before symptoms and further deterioration developed. Additionally, TB in children can be a sentinel health event and may indicate a host of other problems.

Multiple drug-resistance is not yet a problem in San Francisco. However, prevention of this problem requires ongoing, intensive public health efforts to ensure that patients with TB are found early in their disease course and that treatment is both adequate and taken to completion to avoid relapse, further contagion, and the development of multiple drug-resistant TB.

For information about the treatment of tuberculosis and tuberculosis infection, call the TB Control Division of the San Francisco Department of Public Health, (415) 206-8524.

References

1. San Francisco Department of Public Health (SFDPH). Tuberculosis epidemiology in San Francisco, 1990. San Francisco Epidemiologic Bulletin 1991;7(10):48-49.

2. Centers for Disease Control (CDC) Nosocomial transmission of multi-drug-resistant tuberculosis among HIV-infected persons- Florida and New York, 1988-1991. MMWR 1991;40:585-91.

FIGURE 1. TB and TB/AIDS cases by year, San Francisco, 1982-1991

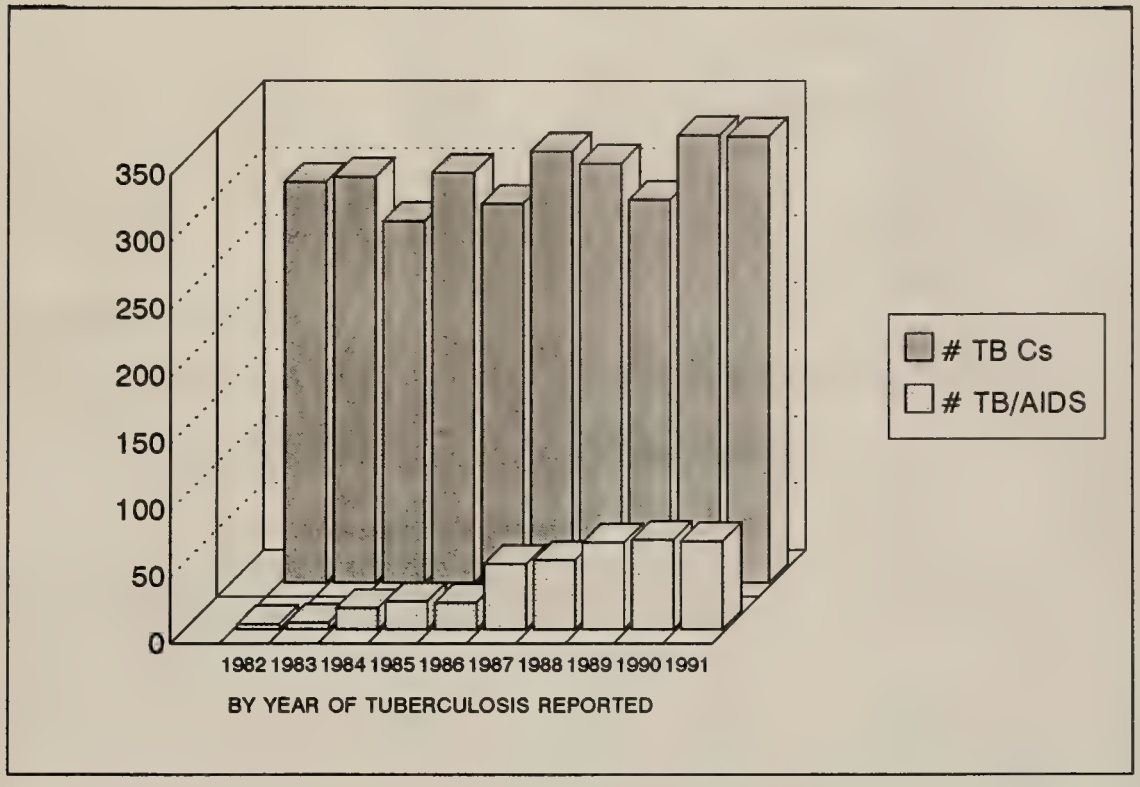

TABLE 1. Tuberculosis cases by age, San Francisco, 1991

Age	N	%
0 - 14	12	3.6%
15 - 24	25	7.5%
25 - 44	173	52.0%
45 - 64	70	21.0%
65 +	53	15.9%

TABLE 2. Tuberculosis cases by ethnicity/race, San Francisco, 1991

Ethnicity/Race	Number	%	Case Rate per 100,000
Asian American	161	48.4%	78
White	67	20.1%	20
African American	64	19.2%	84
Latino	34	10.2%	34
Other	7	2.1%	NA

TABLE 3. TB cases with transient living situations, San Francisco 1989-1991

Year	# transient TB cases	% of total cases
1989	23	8.0%
1990	34	10.2%
1991	41	12.3%

TABLE 4. Drug-resistant tuberculosis cases, San Francisco, 1987-1991

YEAR	INH (R)+ RIF (S)++	INH (R) RIF (R)	INH (S) OTHER (R)	# WITH ANY (R)	% TOTAL CASES
1987 US*	3	0	10	13	4.0%
(322) FB**	24	2	7	33	10.3%
1988 US	4	1	8	13	4.2%
(313) FB	7	1	8	16	5.1%
1989 US	7	1	3	11	3.9%
(286) FB	22	0	6	28	9.8%
1990 US	6	0	7	13	3.9%
(334) FB	20	0	14	34	10.2%
1991 US	6	0	10	16	4.8%
(333) FB	18	2	9	32	9.6

* US= U.S.born
**FB= Foreign Born
+R= resistant
++S= susceptible

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING May 2, 1992

DISEASE	CASES REPORTED WEEKS 14 THROUGH 18			TOTAL CASES REPORTED TO DATE		
	1990	1991	1992	1990	1991	1992
AIDS	244	141	193	809	721	690
AMEBIASIS	32	26	33	96	110	89
CAMPYLOBACTERIOSIS	55	55	57	184	224	220
CHANCROID	7	-		20	2	
CHLAMYDIAL INFECTIONS	235	244	203	927	979	804
GIARDIASIS	37	46	42	113	118	111
GONORRHEA	384	332	256	1506	1231	1012
H. INFLUENZAE INVASIVE DISEASE	5	1	1	8	5	1
HEPATITIS Type A	26	16	49	98	80	180
HEPATITIS Type B	25	5	2	66	25	31
HEPATITIS Non A - Non B	1	-		2	1	
LISTERIOSIS	1	1	-	5	8	2
LYME DISEASE						
MALARIA	4	1	4	10	2	5
MEASLES	14	0	-	20	1	1
MENINGOCOCCAL INFECTIONS	-	-	2	2	4	5
PELVIC INFLAMMATORY DISEASE	31	22	16	144	89	57
PERTUSSIS		1	-		3	1
RUBELLA	1		1	1	-	2
SALMONELLOSIS	12	9	21	51	68	52
SHIGELLOSIS	37	25	35	90	98	103
SYPHILIS, Total	87	67	31	319	263	169
SYPHILIS, Primary & Secondary	39	17	10	141	89	38
TUBERCULOSIS	35	35	47	107	111	139
TYPHOID FEVER	2	-	-	2	2	2
TOTAL DEATHS REPORTED THIS PERIOD	862	802		3159	3162	
Deaths from pneumonia and influenza	23	8		115	88	
Medical Examiner cases	153	141		569	551	
Drug-related cases	23	32		74	114	
Cocaine-related cases	7	19		29	63	

TB and Homelessness

The National Health Care for the Homeless Council, the National Coalition for the Homeless, and the Centers for Disease Control are currently working on a national strategy for tuberculosis prevention, screening, and treatment among homeless people. A recent publication of Morbidity and Mortality Weekly Report (Recommendations and Reports: April 17, 1992, Vol. 41, No. RR-5) highlighted the problem in an article on the Prevention and Control of Tuberculosis Among Homeless Persons. The collaboration between homeless organizations and the CDC will focus on the development of a white paper that will provide an overview of the risk for tuberculosis among homeless people, prevention and treatment approaches, and policy recommendations for a national strategy.

Bob Prentice, Ph.D., Director of Homeless Programs, and Dan Wlodarczyk, M.D. , Medical Director of Homeless Programs, represent the San Francisco Department of Public Health in the national work group. They can be reached at (415) 554-2670. When the white paper is available, an announcement will be made in this publication, detailing how it can be obtained.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING May 30, 1992

DISEASE	CASES REPORTED WEEKS 19 THROUGH 22			TOTAL CASES REPORTED TO DATE		
	1990	1991	1992	1990	1991	1992
AIDS	172	156	154	981	877	844
AMEBIASIS	22	26	14	118	136	103
CAMPYLOBACTERIOSIS	73	65	59	257	289	279
CHANCROID	3	-		23	2	
CHLAMYDIAL INFECTIONS	214	156	163	1141	1135	967
GIARDIASIS	18	21	20	131	139	131
GONORRHEA	337	231	188	1843	1462	1200
H. INFLUENZAE INVASIVE DISEASE	4	0	2	12	5	3
HEPATITIS Type A	11	19	21	109	99	201
HEPATITIS Type B	7	8	7	73	33	38
HEPATITIS Non A - Non B	-	-		2	1	
LISTERIOSIS	-	1	1	5	9	3
LYME DISEASE						
MALARIA	-	2	-	10	4	5
MEASLES	11	1	-	31	2	1
MENINGOCOCCAL INFECTIONS	-	-	1	2	4	6
PELVIC INFLAMMATORY DISEASE	24	21	14	168	110	71
PERTUSSIS		-	-		3	1
RUBELLA	-	1	-	1	1	2
SALMONELLOSIS	12	15	14	63	84	66
SHIGELLOSIS	27	12	20	122	114	117
SYPHILIS, Total	53	48	18	383	311	187
SYPHILIS, Primary & Secondary	17	12	6	159	101	44
TUBERCULOSIS	48	36	31	144	147	170
TYPHOID FEVER	-	-	-	2	2	2
TOTAL DEATHS REPORTED THIS PERIOD	622	596		3781	3750	
Deaths from pneumonia and influenza	24	6		139	94	
Medical Examiner cases	121	112		690	663	
Drug-related cases	19	21		93	135	
Cocaine-related cases	6	7		35	70	

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Vol. 8, No. 7 July 1992

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

23 Pelvic Inflammatory Disease: clinical review and reporting requirements in California

SF
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#2 '92

Pelvic Inflammatory Disease: clinical review and reporting requirements in California

Introduction. Pelvic inflammatory disease (PID) is a significant reproductive health problem in terms of the large number of women affected, the sequelae of the disease, and the cost, both to the individual and to society. It has been estimated that at least one million women experience an episode of PID each year (1,2). At least 25% of these women will suffer from one or more of the long term sequelae including infertility, ectopic pregnancy, and chronic pelvic pain (3,4). Approximately 200,000 women are hospitalized annually for PID treatment and complications, and an estimated 100,000 PID-related surgical procedures occur each year (1,2). In addition, an estimated 2.5 million visits to physicians occur each year for PID and its related conditions (1,2). In 1990, the estimated direct and indirect costs of PID totaled 4.2 billion dollars (5). Should current trends continue, these costs are expected to reach 10 billion dollars in the year 2000 (5).

PID refers to a clinical spectrum of disease which includes endometritis, salpingitis, tubo-ovarian abscess, and pelvic peritonitis. Both aerobic and anaerboic organisms have been associated with PID but it is most commonly caused by Neisseria gonorrhaoae and Chlamydia trachomatis. Infections can be caused by more than one organism.

Diagnosis. The diagnosis of PID can be difficult to make because no diagnostic test exists which is both sensitive and specific. In addition, PID may be asymptomatic or have atypical sypmtoms; it may be acute or chronic. Typically, a diagnosis of PID has been based on clinical criteria, including cervical motion, adnexal, and uterine tenderness. The diagnosis of a gonococcal or chlamydial cervical infection strengthens the diagnosis. Patients without symptoms generally are overlooked and not identified until a sequela of PID is diagnosed. As with any clinical diagnosis, wide variation in diagnostic criteria used by practitioners exists. Tests such as laparoscopy and endometrial biopsy have better sensitivity and specificity, but their high cost and lack of availability make them impractical in most clinical settings.

To aid clinicians in the diagnosis of PID the Centers for Disease Control (CDC), in 1991, developed minimum clinical criteria for the diagnosis of PID (6). Treatment should be instituted based upon the presence of the following minimum criteria and in the absence of other competing diagnoses. Use of these sensitive criteria may result in diagnosing and treating women who in fact do not have PID. The value of using these sensitive criteria is that fewer cases of PID will be missed. The provider should carefully inform the patient and her partner(s) of the meaning and implication of the diagnosis and treatment. In addition, even the use of these sensitive criteria may result in missed cases of PID, therefore, treatment should not be withheld from patients suspected of having PID who do not meet these criteria.

Minimum criteria for clinical diagnosis of PID:

1. Lower abdominal tenderness, plus
2. Bilateral adnexal tenderness, plus
3. Cervical motion tenderness

Women who present with severe signs should have a more extensive evaluation to decrease the likelihood of misdiagnosis of other conditions. The following are additional CDC diagnostic criteria. They have been divided into those signs which are readily measurable and those which are more definitive, but entail procedures that are more expensive and often not widely available.

Additional criteria useful in diagnosing PID:

1. Routine:
   a. Oral temperature >38.3° C
   b. Abnormal cervical or vaginal discharge
   c. Elevated erythrocyte sedimentation rate and/or C reactive protein
   d. Culture or non-culture evidence of cervical infection with N. gonorrhoeae or C. trachomatis
2. Elaborate:
   a. Histopathologic evidence on endometrial biopsy
   b. Tubo-ovarian abscess on ultrasound
   c. Laparoscopy

All patients suspected of having PID should have endocervical cultures or antigen detection tests for C. trachomatis and endocervical cultures for N. gonorrhoeae

Treatment. Although there are difficulties and limitations in the diagnosis of PID, the serious potential sequelae make it prudent for clinicians to consider treating women with even the most mild symptoms. The current CDC treatment recommendations for PID are designed to provide broad-spectrum coverage. Other treatment options may be considered by practitioners and should include coverage for N. gonorrhoeae, C. trachomatis, gram-negative rods, streptococci, and anaerobes. Although many practitioners recommend hospitalization for all women with PID, the CDC treatment guidelines include both an inpatient regimen and an ambulatory treatment option for those situations where hospitalization appears impractical.

Inpatient treatment options:

a. Cefoxitin 2 gm intravenously (IV) every six hours or cefotetan 2 gm IV every 12 hours (or other cephalosporin with appropriate antimicrobial spectrum)

plus

doxycycline 100 mg orally or IV every 12 hours

OR

b. Clindamycin 900 mg IV every eight hours

plus

gentamicin loading dose of 2 mg/kg IV/IM followed by a maintenance dose of 1.5 mg/kg IV every eight hours

Inpatient treatment should be given for at least 48 hours after the patient improves clinically. Doxycycline 100 mg twice daily, orally, should be continued on an outpatient basis for a total of 14 days with either regimen.

Ambulatory treatment options:

a. Cefoxitin 2 gm IM plus probenecid 1 gm orally given concurrently

OR

b. Ceftriaxone 250 mg IM (or equivalent cephalosporin)

Both regimes should be followed by doxycycline 100 mg orally for 14 days. Patients should be reevaluated in 72 hours and those patients who have not improved should be hospitalized.

Hospitalization is recommended in the following situations:

1. The diagnosis is uncertain.
2. Surgical emergencies such as ectopic pregnancy and appendicitis cannot be excluded.
3. The patient is pregnant.
4. A pelvic mass is suspected.
5. The patient is an adolescent.
6. The patient is unable to tolerate an outpatient regimen.
7. The patient has failed to respond to an outpatient regimen.
8. Clinical follow-up within 72 hours cannot be arranged.
9. The patient has coexistent infection with the human immunodeficiency virus (HIV).

Prevention. Prevention of PID involves: preventing the primary cervical infections which cause PID; prompt diagnosis and treatment of lower genital tract infections (thereby decreasing the likelihood of ascending spread from the cervix to the upper genital tract); and prompt evaluation and treatment of female partners of men diagnosed with urethritis and/or epididymitis. In addition, to prevent further spread of STDs, male partners of women diagnosed with PID and/or lower genital tract infections also need prompt evaluation and treatment. Other important elements in the prevention of PID and other STDs include providing culturally appropriate risk-reduction educational services to individuals and the community, and ensuring that medical providers are knowledgeable on the diagnosis, management, and reporting requirements of PID.

Reporting and Surveillance. Data on the incidence and prevalence of PID have relied predominately on surveys of reproductive aged women, hospital discharges, and visits to physician's offices. These data are limited and provide only minimal estimates of the true rates of disease. Monitoring trends in morbidity is essential in order for public health agencies to be able to implement and evaluate prevention and control strategies.

In March 1989, PID became a reportable communicable disease in California. As with other reportable conditions, laboratories that isolate or identify reportable STD agents and health care providers who diagnose a reportable STD, are required by law to submit the name, address, demographic information and diagnosis of the patient to the local health department. Currently, PID surveillance relies on a passive system of reporting. To improve the reporting of PID in San Francisco, an active surveillance system is being developed. Because PID is a clinical condition without specific laboratory markers, surveillance data rely on the medical providers. Given the difficulties in diagnosing PID, and the variation among clinicians in their criteria for diagnosis, a strict surveillance definition has been developed. **Only those PID cases which meet these criteria need be reported.** Patients who meet the minimum clinical criteria listed above should still be treated for possible PID but these cases do not need to be reported.

The surveillance definition is based upon the following major and minor criteria:

1.Major Criteria:
a. History of lower abdominal pain and the presence of lower abdominal tenderness
b. Bilateral adnexal tenderness
c. Cervical motion tenderness
d. Absence of other causes of pelvic inflammation

2.Supporting Criteria:
a. Oral temperature >38°C
b. Gram stain of endocervical discharge revealing gram negative intracellular diplococci
c. Gram stain of endocervical discharge revealing a minimum of ten white blood cells per oil immersion field
d. Presence of a pelvic mass on examination
e. Gonococcal or chlamydial infection of the cervix

Surveillance case definitions:

1. Probable PID requires all four major criteria and any one of the supporting criteria.
2. Possible PID requires two of the four major criteria.

Health care providers should report PID to the San Francisco Department of Public Health. Reports may be submitted by FAX (415)431-4628, by phone 24 hours a day to the STD case reporting line (415)495-7432, by phone to City Clinic during regular business hours (415)864-8100, or by completing a Confidential Morbidity Report (CMR) card and mailing to: City Clinic 356 7th St. S.F. CA 94103. The information required for reporting includes the patient's name, address, gender, race/ethnicity, date of birth, diagnosis, date of diagnosis, and any positive test or culture results. Health care providers who have questions regarding the diagnosis, management, or reporting of PID or other STDs, or who wish to receive CMR cards, may contact Alberto Martinez, STD Surveillance Coordinator, at (415) 864-8100.

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CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING 6/27/92

DISEASE	CASES REPORTED WEEKS 23 THROUGH 26			TOTAL CASES REPORTED TO DATE		
	1990	1991	1992	1990	1991	1992
AIDS	115	177	132	1096	1054	976
AMEBIASIS	32	23	16	150	159	119
CAMPYLOBACTERIOSIS	87	95	72	355	384	351
CHANCROID	2	0	0	25	2	0
CHLAMYDIAL INFECTIONS	232	176	164	1373	1311	1131
GIARDIASIS	31	34	15	162	173	146
GONORRHEA	313	215	194	2156	2677	1394
H. INFLUENZAE INVASIVE DISEASE	2	0	2	14	5	5
HEPATITIS Type A	20	14	32	129	113	233
HEPATITIS Type B	5	9	8	78	42	46
HEPATITIS Non A - Non B	0	2	0	2	2	0
LISTERIOSIS	0	3	0	5	12	3
LYME DISEASE	0	1	0	0	1	0
MALARIA	1	0	1	11	4	6
MEASLES	1	0	0	32	2	1
MENINGOCOCCAL INFECTIONS	1	0	0	3	4	6
PELVIC INFLAMMATORY DISEASE	25	10	26	193	120	97
PERTUSSIS	1	0	0	1	3	1
RUBELLA	0	0	0	73	97	79
SALMONELLOSIS	10	13	13	73	97	79
SHIGELLOSIS	20	14	15	142	129	138
SYPHILIS, Total	23	56	27	442	375	214
SYPHILIS, Primary & Secondary	33	15	9	192	116	53
TUBERCULOSIS	27	26	19	171	173	189
TYPHOID FEVER	0	0	0	2	2	2
TOTAL DEATHS REPORTED THIS PERIOD	657	629		4438	4379	
Deaths from pneumonia and influenza	17	12		156	106	
Medical Examiner cases	106	125		796	788	
Drug-related cases	16	27		109	162	
Cocaine-related cases	11	13		46	83	

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Vol. 8, No. 8 August 1992

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

27 Long-Term HIV Infection: Update on the San Francisco City Clinic Cohort Study
31 Announcement for National AIDS Update Conference

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Long-Term HIV Infection: Update on the San Francisco City Clinic Cohort Study

Introduction. Between 1978 and 1980, the San Francisco Department of Public Health and the Centers for Disease Control (CDC) recruited a cohort of 6,704 homosexual and bisexual men from San Francisco City Clinic, the municipal sexually transmitted disease clinic, for studies of the prevalence, incidence, and prevention of hepatitis B. As part of these studies, blood samples were drawn from all participants, and unused serum samples were frozen and stored at the CDC. From 1983 to the present, the Department of Public Health and the CDC have conducted epidemiological, clinical, and laboratory follow-up studies of HIV infection and AIDS in the San Francisco City Clinic cohort (SFCCC).

Very few epidemiological studies of HIV-infected individuals have information about infection which occurred before 1984. Through HIV testing of stored specimens, we have prospectively followed the natural history of HIV infection among homosexual and bisexual men for over 14 years. We report here on progression to AIDS, prognostic markers, and clinical manifestations in long-term HIV infection. We then summarize some promising areas of investigation into mechanisms which may explain why some persons remain healthy many years after HIV infection.

HIV Disease Progression. While the risk of AIDS remains low early after HIV infection, the cumulative proportion of persons developing AIDS continues to rise with increasing duration of HIV infection. The SFCCC study has shown that of 562 HIV-infected men whose date of seroconversion could be well estimated (Figure 1), approximately 1% will develop AIDS within 2 years of infection, 11% within 5 years, 51% within 10 years, and 65% within 13 years (1).

Identification of laboratory markers that predict the development of AIDS in HIV-infected persons is important for both clinical management and patient counseling. Laboratory tests which have been evaluated as prognostic markers include CD4+ lymphocyte counts, p24 antigen and beta-2 microglobulin assays. Each of these tests also reflects an important component of the response to HIV infection. Several studies of HIV-infected persons have demonstrated a relationship between low CD4+ counts (2-5), high beta-2 microglobulin (2,5), and either the presence of or high titers of p24 antigen (6,7). A recent article from the SFCCC study found that beta-2 microglobulin levels consistently emerged as an independent predictor of AIDS, even after adjusting for level of CD4+ count, duration of HIV infection, and prior use of zidovudine (8).

Although the clinical manifestations of HIV infection are numerous, only a few of these manifestations have been shown to independently predict progression to AIDS. For example, several clinical studies suggested that HIV-infected individuals with hairy leukoplakia and oral candidiasis progress more rapidly to AIDS than those without these lesions (9,10). Because these studies were of patients in clinical settings, they may have overestimated the rate of progression to AIDS. In addition, these studies did not control for CD4+ lymphocyte counts to assess whether the presence of oral lesions was independently associated with a faster progression to AIDS. However, a recent

article which combined data from the SFCCC and two other cohort studies of HIV-infected homosexual men found that the presence of oral candidiasis and/or hairy leukoplakia on baseline examination does confer independent prognostic information (11).

Herpes zoster has been variably described as an early (12) and as a late manifestation (13) of HIV infection; its association with faster HIV disease progression has also been controversial (14). Data from the SFCCC indicates that herpes zoster is not associated with duration of HIV infection and is not predictive of faster progression to AIDS (15).

Three cancers are currently included in the Centers for Disease Control (CDC) case definition of the acquired immunodeficiency syndrome (AIDS): Kaposi sarcoma, non-Hodgkin lymphoma, and primary lymphoma of the brain (16). Recent reports, have suggested that Hodgkin disease may also be an HIV-related malignancy (17,18). By using a computerized match of the SFCCC with the Northern California Cancer Center, an increased incidence of Hodgkin disease among HIV-infected men was detected in the SFCCC study (19).

A great deal of research has been devoted to analyzing the frequency and temporal trends of initial AIDS diagnoses (20). Far less research has been done on the clinical manifestations that occur after an initial AIDS diagnosis (21). As persons with AIDS live longer due to earlier diagnosis, heightened awareness by clinicians of HIV manifestations, and improvement in antiviral and prophylactic therapy, subsequent diagnoses increase in importance. By combining data collected from local and national AIDS surveillance registries, cancer registry matches, and death certificates, we have been able to assess the frequency and temporal changes in late manifestations of AIDS in the SFCCC. The results from this investigation showed that atypical mycobacterium infection, cytomegalovirus infection, and non-Hodgkin lymphoma were much more common as subsequent diagnoses than as first diagnoses and the frequency of these diseases has significantly increased over time (22). Additionally, from 1981 to 1991 Pneumocystis carinii pneumonia decreased as an initial and subsequent diagnosis while Kaposi sarcoma decreased as an initial diagnosis but increased as a subsequent diagnosis.

Delayed Progression of HIV Disease and Areas for Future Research. Understanding the mechanisms responsible for delayed HIV disease progression in persons with long-term HIV infection is of great importance. Cross sectional studies are limited in their ability to determine whether immunological abnormalities are a cause or a consequence of clinical deterioration; prospective data is needed to answer this question. In addition, studies using a case control approach (comparing slow and fast progressors) are hampered by not knowing the duration of HIV infection in cases or controls. The SFCCC is uniquely able to address these issues because we have been prospectively collecting laboratory and clinical data on a cohort of HIV-infected men with well-characterized dates of HIV seroconversion.

Investigators have demonstrated in cross sectional studies that persons with asymptomatic HIV infection have stronger cytotoxic lymphocyte activity (cells that kill HIV-infected cells) than persons with advanced HIV disease (23). Healthy long-term positives from the SFCCC have maintained strong cytotoxic lymphocyte activity many years after HIV infection (24), suggesting that this is one mechanism responsible for delayed progression.

Suppressor T cell activity appears to play an important role in inhibiting HIV replication in CD4+ cells (25,26); loss of this suppressor activity is correlated with HIV disease progression. The slow progressors from the SFCCC were found to have maintained strong suppressor cell activity (27), indicating that suppressor cells may also play a role in delayed progression. The mechanism for such suppression is being actively explored.

The role of humoral or antibody-mediated immunity in delayed HIV disease progression is less clear (28). Healthy long-term positives appear to have higher levels of antibodies directed against several HIV proteins and subregions of proteins (27), but it has been difficult to discern which of

these antibodies, if any, play an important role in delayed progression.

Most research on the role of genetics in HIV disease progression has focused on the HLA complex (28-31), those human genes that mark one's own cells as belonging to "self" and which are integrally involved in the immune response against "non-self" or foreign substances. Genetic testing for difference between fast and slow progressors in the SFCCC is currently underway.

The association of particular viral strains with the rate of disease progression is a very important area of research. Investigators have classified viral strains based upon their biologic properties, including rate of replication, ability to infect particular types of cells, and ability to produce pathological changes in these cells (32). It has been shown that persons with asymptomatic HIV infection generally have lower viral titers, and that the spectrum of viral strains present are less pathogenic (32-34). Research efforts in this area may identify viral genes responsible for decreased pathogenicity or may identify factors which delay or prevent a switch from less virulent to more virulent strains.

Reported by: Research Branch, AIDS Office.

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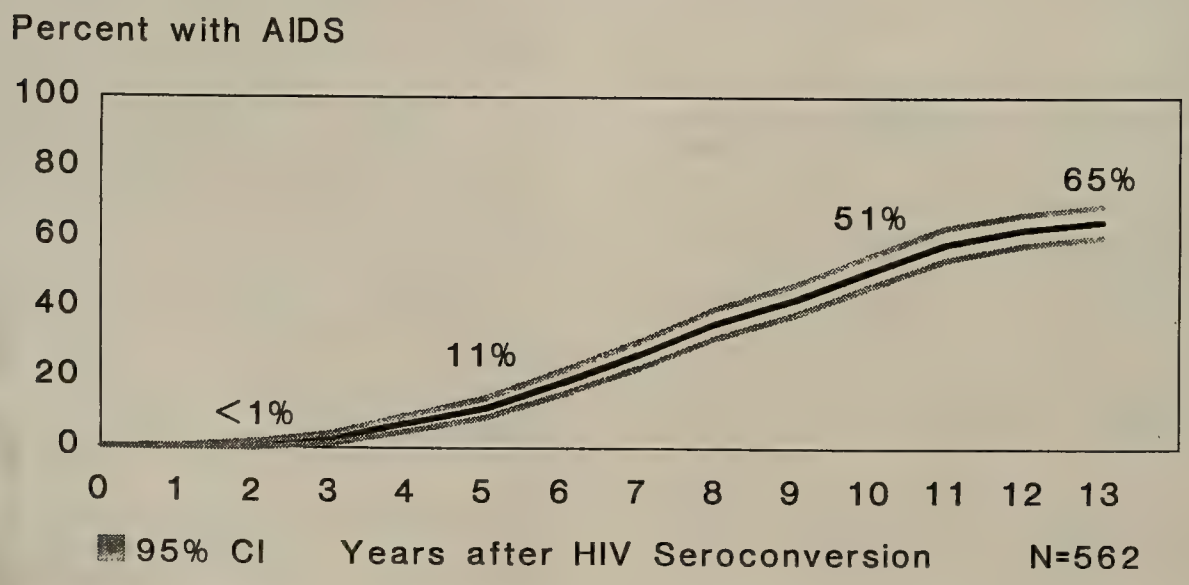
Figure 1. Progression time to AIDS
San Francisco City Clinic Cohort



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Integrating HIV/AIDS: A Shared Responsibility

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REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING August 1, 1992

Errata: Vol. 8, No. 7, total Rubella cases reported to date through week 26, 1990 is 1, 1991 is 1, and 1992 is 2.

DISEASE	CASES REPORTED WEEKS 27 THROUGH 31			TOTAL CASES REPORTED TO DATE		
	1990	1991	1992	1990	1991	1992
AIDS	182	174	148	1277	1228	1124
AMEBIASIS	39	36	17	189	195	136
CAMPYLOBACTERIOSIS	97	91	69	441	475	420
CHANCROID	6	0	0	31	2	0
CHLAMYDIAL INFECTIONS	276	189	226	1649	1500	1357
GIARDIASIS	36	25	27	198	198	173
GONORRHEA	464	284	219	2620	1961	1638
H. INFLUENZAE INVASIVE DISEASE	2	2	0	16	7	5
HEPATITIS Type A	36	31	13	165	144	246
HEPATITIS Type B	19	5	6	97	47	52
HEPATITIS Non A - Non B	4	0	0	6	3	0
LISTERIOSIS	3	1	0	8	13	3
LYME DISEASE	0	1	1	0	2	1
MALARIA	5	1	2	16	5	8
MEASLES	3	0	0	35	2	1
MENINGOCOCCAL INFECTIONS	2	0	0	5	4	6
PELVIC INFLAMMATORY DISEASE	34	16	19	227	136	115
PERTUSSIS	0	0	1	1	3	2
RUBELLA	0	0	0	1	1	2
SALMONELLOSIS	40	11	18	113	108	97
SHIGELLOSIS	52	32	5	194	160	168
SYPHILIS, Total	111	54	32	553	429	246
SYPHILIS, Primary & Secondary	42	9	9	234	125	62
TUBERCULOSIS	38	24	30	209	197	219
TYPHOID FEVER	0	0	0	0	0	0
TOTAL DEATHS REPORTED THIS PERIOD	771	753		5209	5132	
Deaths from pneumonia and influenza	24	22		180	182	
Medical Examiner cases	131	84		927	872	
Drug-related cases	33	35		142	197	
Cocaine-related cases	17	10		63	93	

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Vol. 8, No.9 September 1992

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

33 Chronic Fatigue/Chronic Fatigue Immune Dysfunction Syndrome
37 Guidelines for 1992-1993 Influenza Vaccine Use

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Chronic Fatigue/Chronic Fatigue Immune Dysfunction Syndrome

Chronic fatigue syndrome, also known as chronic fatigue immune dysfunction syndrome (CFIDS), is a recently described syndrome of unknown etiology characterized by debilitating fatigue associated with low grade fever, pharyngitis, myalgias, headache, depression and neurologic complaints. CFIDS is a new name for a problem that has been described for at least two centuries, attributed to a variety of etiologies and given a variety of names such as neurasthenia.

Studies of CFIDS have been limited by difficulty in making a definitive diagnosis so that the group of persons included as patients may vary from study to study, producing different results and making comparison difficult. Presented here are adaptations of the working case definition developed by the Centers for Disease Control (CDC) (1), and summaries of the treatment information and laboratory tests developed in a collaboration by the San Francisco Department of Public Health and the CFIDS Foundation. Additionally, a diagnostic algorithm for patients presenting with fatigue has been included.

CDC Working Case Definition of Chronic Fatigue Syndrome

A case of chronic fatigue syndrome must first fulfill two major criteria, and the following minor criteria: 6 or more of the 11 symptom criteria and 2 or more of the 3 physical criteria; or 8 or more of the 11 symptom criteria.

Major Criteria

1. New onset of persistent or relapsing, debilitating fatigue or easy fatigability in a person who has no previous history of similar symptoms, that does not resolve with bed rest and that is severe enough to produce or impair average daily activity below 50% of the patient's premorbid activity level, for a period of at least 6 months.

2. Other clinical conditions that may produce similar symptoms must be excluded by thorough evaluation, based on history, physical examination and appropriate laboratory findings. These conditions include:

- malignancy
- autoimmune disease
- localized infection (such as occult abscess),
- chronic or subacute bacterial disease (such as endocarditis, Lyme disease, or tuberculosis)
- fungal disease (such as histoplasmosis, blastomycosis, or coccidioidomycosis)
- parasitic disease (such as toxoplasmosis, amebiasis, giardiasis, or helminthic infestation)
- disease related to HIV infection
- chronic psychiatric disease, either newly diagnosed by history (such as endogenous depression, hysterical personality disorder, anxiety neurosis, schizophrenia), or chronic use of major tranquilizers, lithium, or antidepressive medications
- chronic inflammatory disease (such assarcoidosis, Wegener granulomatosis, or chronic hepatitis)
- neuromuscular disease (such as multiple sclerosis or myasthenia gravis)
- endocrine disease (such as hypothyroidism, Addison's disease, Cushing's syndrome, or diabetes mellitus)
- drug dependency or abuse (such as alcohol, controlled prescription drugs, or illicit drugs)
- side effects of a chronic medication or other toxic agent (such as a chemical solvent, pesticide, or heavy metal),
- other known or defined chronic pulmonary, cardiac, gastrointestinal, hepatic, renal, or hematologic disease.

Minor Criteria

Symptom Criteria: In addition to fulfilling the major criteria outlined above, a diagnosis of CFIDS must fulfill 6 or more symptom criteria **and** 2 or more of the physical criteria **or** more than 8 symptom criteria. A symptom must have begun at or after the time of onset of increased fatigability, and must have persisted or recurred over a period of at least 6 months (individual symptoms may or may not have occurred simultaneously). Symptoms include the following:

1. Chills or mild fever, i.e., oral temperature between 37.5C and 38.6C, if measured by the patient (note: oral temperatures of greater than 38.6C are less compatible with chronic fatigue syndrome and should prompt studies for other causes of illness).
2. Sore throat
3. Painful lymph nodes in the anterior or posterior cervical or axillary distribution
4. Unexplained generalized muscle weakness
5. Muscle discomfort or myalgia
6. Prolonged (≥24 hours) generalized fatigue after levels of exercise that would have been easily tolerated in the patient's premorbid state.
7. Generalized headaches (of a type, severity, or pattern that is different from headaches the patient may have had in the premorbid state)
8. Migratory arthralgia without joint swelling or redness
9. Neuropsychologic complaints (one or more of the following: photophobia, transient visual scotomata, forgetfulness, excessive irritability, confusion, difficulty thinking, inability to concentrate, depression)
10. Sleep disturbance (hypersomnia or insomnia)
11. Description of the main symptom complex as initially developing over a few hours to a few days (this is not a true symptom, but may be considered as equivalent to the above symptoms in meeting the requirements of the case definition).

Physical Examination Criteria: Physical criteria must be documented by a physician on at least two occasions, at least one month apart.

1. Low-grade fever, i.e., oral temperature between 37.5C and 38.6C, or rectal temperature between 37.8C and 38.8C. (See note under Symptom Criterion 1)
2. Nonexudative pharyngitis
3. Palpable or tender anterior or posterior cervical or axillary lymph nodes. (Note: lymph nodes greater than 2 cm in diameter suggest other causes. Further evaluation is warranted).

CFIDS Laboratory Protocol

1. The following tests may be routinely considered to rule out other causes for symptomatology:

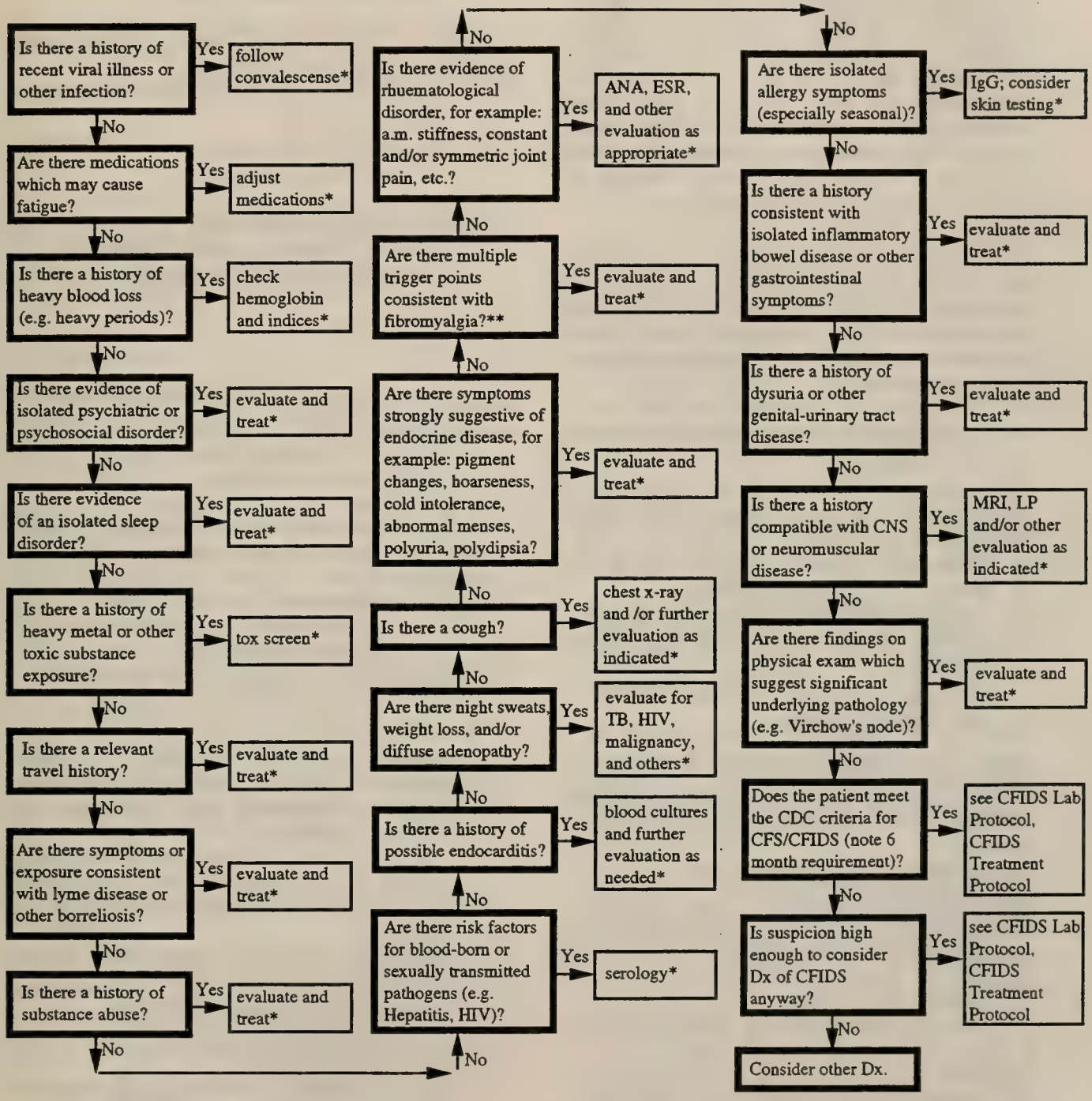
- complete blood count (to include differential, platelet count, and indices)
- urinalysis (qualitative and microscopic)
- routine cancer screening
- TB skin test (PPD)
- chemistry panel (to include electrolytes, liver function, calcium, glucose [preferably fasting], BUN creatinine)
- *sedimentation rate
- free thyroxine index (thyroxine and T3 resin uptake)
- thyroid stimulating hormone
- *anti-nuclear antibodies
- VDRL or RPR

2. These tests may be considered to rule out other causes depending on patient history and examination:

- *anti-thyroid antibodies
- Lyme disease serology
- hepatitis serologies
- HIV antibody
- chest x-ray
- *skin test for anergy
- serologies and cultures as indicated
- lymph node biopsy
- cosyntropin (cortrosyn) stimulation test
- magnetic resonance imaging for demyelinating disease
- evaluation for myasthenia gravis
- lumbar puncture
- quantitative immunoglobulin
- stool parasites and other pathogens
- fecal occult blood

* Those tests marked with an asterisk may be useful in evaluation and treatment for CFIDS as distinct from ruling out other disease processes (in PWCs the sed rate is frequently low (less than 5); skin test for anergy frequently shows no reaction to any of the antigens; and both anti-nuclear and anti-thyroid antibodies are frequently low level positive).

Diagnostic Algorithm for Patients Presenting with Fatigue


Is there a history of recent viral illness or other infection?
Yes
follow convalescense*
No
Are there medications which may cause fatigue?
Yes
adjust medications*
No
Is there a history of heavy blood loss (e.g. heavy periods)?
Yes
check hemoglobin and indices*
No
Is there evidence of isolated psychiatric or psychosocial disorder?
Yes
evaluate and treat*
No
Is there evidence of an isolated sleep disorder?
Yes
evaluate and treat*
No
Is there a history of heavy metal or other toxic substance exposure?
Yes
tox screen*
No
Is there a relevant travel history?
Yes
evaluate and treat*
No
Are there symptoms or exposure consistent with lyme disease or other borreliosis?
Yes
evaluate and treat*
No
Is there a history of substance abuse?
Yes
evaluate and treat*
No
No
Is there risk factors for blood-born or sexually transmitted pathogens (e.g. Hepatitis, HIV)?
Yes
serology*
No
Is there a history of possible endocarditis?
Yes
blood cultures and further evaluation as needed*
No
Are there night sweats, weight loss, and/or diffuse adenopathy?
Yes
evaluate for TB, HIV, malignancy, and others*
No
Is there a cough?
Yes
chest x-ray and /or further evaluation as indicated*
No
Are there symptoms strongly suggestive of endocrine disease, for example: pigment changes, hoarseness, cold intolerance, abnormal menses, polyuria, polydipsia?
Yes
evaluate and treat*
No
Are there multiple trigger points consistent with fibromyalgia?**
Yes
evaluate and treat*
No
Is there evidence of rhuematological disorder, for example: a.m. stiffness, constant and/or symmetric joint pain, etc.?
Yes
ANA, ESR, and other evaluation as appropriate*
No
No
Are there isolated allergy symptoms (especially seasonal)?
Yes
IgG; consider skin testing*
No
Is there a history consistent with isolated inflammatory bowel disease or other gastrointestinal symptoms?
Yes
evaluate and treat*
No
Is there a history of dysuria or other genital-urinary tract disease?
Yes
evaluate and treat*
No
Is there a history compatible with CNS or neuromuscular disease?
Yes
MRI, LP and/or other evaluation as indicated*
No
Are there findings on physical exam which suggest significant underlying pathology (e.g. Virchow's node)?
Yes
evaluate and treat*
No
Does the patient meet the CDC criteria for CFS/CFIDS (note 6 month requirement)?
Yes
see CFIDS Lab Protocol, CFIDS Treatment Protocol
No
Is suspicion high enough to consider Dx of CFIDS anyway?
Yes
see CFIDS Lab Protocol, CFIDS Treatment Protocol
No
Consider other Dx.

* Diagnosis of any of these problems does not necessarily rule out a diagnosis of Chronic Fatigue Immune Dysfunction Syndrome (CFIDS).
** Diagnosis of CFIDS and fibromyalgia may overlap.
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CFIDS Treatment Protocol

Treatment for CFIDS must be individualized, based on each patient's symptoms and response. The person with CFIDS (PWC) is often disabled beyond the ability of objective measures to define the disability. As in other chronic, difficult to treat illnesses, the relationship between the healthcare provider and the PWC is likely to be a long-term, demanding, and time consuming one. Setting realistic goals is important; overactivity almost always brings a flare up of symptoms. Many PWCs appear to be very sensitive to drugs. Dosages are often started at ½ or ¼ the usual adult dose.

There is a paucity of proven treatments specifically for CFIDS and its symptoms. The following guidelines represent a consensus among clinicians involved in the care of people with CFIDS. There is as yet only a minimal research base to support many of these interventions.

I. Treatments known to be effective with other disease processes:

Sleep disorder: Treatment of sleep disturbance is important, as other symptoms may be increased if the quality of sleep is poor.

- Clonazepam (Klonopin) 0.25-2.0 mg po qhs (warn re: habit forming potential)
- Cycocylobenzaprine (Flexeril) 10-20 mg at hs
- Sedating antidepressants (especially doxepin [Sinequan])
- Temazepam (Restoril), oxazepam (Serax), or other sedative hypnotics

Pain: Pain is a common clinical manifestation of CFIDS; it can be present in the form of myalgia, neuralgia, and/or arthralgia, and in some cases is quite severe:

- Nonsteroidal anti-inflammatories
- Muscle relaxants
- Antidepressants, especially doxepin; (note: antidepressants are often used in conjunction with sedative hypnotics and /or cycocyclobenzaprine)
- Other analgesics as needed, including narcotics

Lethargy:

- Nonsedating antidepressants in low dosages, such as fluoxetine (Prozac) if tolerated--start at 5 mg/d
- See associated autoimmune disease below

Headache: Headaches are frequently unusually severe and may require stronger pain medication as needed.

- Nonsteroidal anti-inflammatories
- Dichloralphenazone (Midrin) 2 tabs po stat and 1 tab po every hr up to 5/24 hrs

Allergy: Treatment of nasal symptoms may improve overall symptom picture.

- Cromolyn sodium MDI (Nasalcom) bid to qid
- Steroid nasal spray
- Nonsedating antihistamines and H2 blockers such as ranitidine (Zantac)

Associated autoimmune disease

- Thyroid hormone supplementation if autoimmune thyroiditis is present (in low dose so as to avoid suppressing TSH out of the normal range)

Depression

- Antidepressants should be selected that enhance lethargy, sleeping or pain or pain control. Dosages are often started at ¼-½ usual adult dose.

II. Treatments which may be effective for CFIDS symptom relief but lack adequate controlled trials:

Cognitive Dysfunction:

- Clonazepam- 0.25-2.0 mg po qhs (warn re: habit forming potential)
- Nicardipine (Cardene)-- up to 20 mg, at 3/day

General Therapy:

- Vitamin therapy utilizing a good multivitamin/mineral supplement containing additional magnesium and zinc, such as Optivites, at 4-6/day
- Coenzyme Q-10 (a mitochondrial coenzyme utilized in ATP production available in health food stores): 90-120 mg/day may be effective for pain relief
- High dose vitamin B-12 injections: up to 3000 mcg twice a week; must be accompanied by multivitamin supplement (see above)
- Magnesium. Magnesium sulfate 1 gram (2ml) IM weekly for 6 weeks.
- Antiviral therapy: Acyclovir (Zovirax) might be effective if laboratory tests suggest acute or persistent viral infection; evaluations of other antivirals are pending.

- Immunoglobulin has been effective for many PWCs, although its use in the literature remains controversial: IM; 2-4 cc/wk based on weight IV; 5 gm/wk x 6-12 weeks.
- Ampligen may be promising. It is an immune-modulating antiviral drug which is currently in FDA trials. It is administered intravenously.

III. Treatments which are highly controversial:

- Some CFIDS clinicians feel that PWCs may have significant enteric pathogens including fungal and parasitic organisms. Treatment may include antiparasitic and antifungal drugs.
- Kutapressin (liver extract): protocol available through T. Steinback, M.D., Memorial City Medical Center, Houston, Texas.

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Guidelines for 1992-1993 Influenza Vaccine Use*

Vaccination of high-risk persons each year before the influenza season is the single most important measure for reducing the impact of influenza. The target groups for immunization include:

Groups at increased risk of influenza-related complications.

1. Persons > 60 years of age.
2. Residents of nursing homes and other chronic care facilities housing patients of any age with chronic medical conditions.
3. Adults and children with chronic disorders of the cardiovascular or pulmonary systems, including
4. children with asthma.
5. Adults and children who have required regular medical follow-up or hospitalization during the preceding year because of chronic metabolic disease (including diabetes mellitus), renal dysfunction, anemia, or immunosuppression (including immunosuppression caused by medications or HIV Infection).
6. Children and teenagers (six months through 18 years of age) who are receiving long-term aspirin therapy and, therefore, may be at risk of developing Reye syndrome following influenza infection.

Groups that can transmit influenza to high-risk persons.

1. Physicians, nurses, and other personnel in both hospital and out-patient settings who have extensive contact with high-risk patients in all age groups, including infants.
2. Employees of nursing homes and chronic care facilities who have contact with patients or residents.
3. Providers of care to high-risk persons in the home setting (e.g., visiting nurses, volunteer workers).
4. Household members (including children) of high-risk groups.

Immunodeficient persons: Because influenza vaccine contains only non-infectious viruses, it cannot cause influenza. Since influenza may result in serious illness and complications, vaccination is a prudent precaution which will result in protective antibody levels in many recipients. However, the response to vaccine may be low in persons with advanced HIV related illness. A booster dose does not improve the response for these individuals. They can be protected in some measure by immunization of those around them, including caregivers.

San Francisco comment: The kickoff for the annual flu campaign will be held at the Aquatic Park Branch, San Francisco Senior Center, October 29, 1992 from 1:15-3pm. Immunizations will be available at all the Department of Public Health District Health Centers including Portrero Hill and Southeast Health Centers on the mornings of November 3, 5, 10, and 12.

The final flu clinic will be at Tom Waddell Clinic, 50 Ivy Street November 16 through December 28 from 1-4pm. The Bureau of Epidemiology and Disease Control has also made vaccine available to clinics and physicians.

The 1992-93 vaccine contains three strains: A/Texas 36/91-like (H1N1), A/Beijing/353/89-like (H3N2), and B/Panama/45/90-like antigens. Influenza season usually begins in late November or early December. Since determination of outbreaks of influenza depends on rapid notification by providers, any unusual incidence of respiratory infection should be reported immediately by telephone to the Bureau of Epidemiology and Disease Control at 554-2830. Arrangements will be made for the collection of appropriate specimens, which will facilitate efforts to document the presence of influenza in the area.

***Adapted from MMWR 1992;41:No.RR.9.**

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING 8/29/92

DISEASE	CASES REPORTED WEEKS 32 THROUGH 35			TOTAL CASES REPORTED TO DATE		
	1990	1991	1992	1990	1991	1992
AIDS	183	230	162	1460	1458	1286
AMEBIASIS	27	21	8	216	216	144
CAMPYLOBACTERIOSIS	90	68	62	531	543	482
CHANCROID	7	0	1	38	2	1
CHLAMYDIAL INFECTIONS	236	144	172	1885	1644	1529
GIARDIASIS	29	23	11	227	221	184
GONORRHEA	338	252	224	2958	2213	1862
H. INFLUENZAE INVASIVE DISEASE	4	4	5	20	11	10
HEPATITIS Type A	19	40	19	184	184	265
HEPATITIS Type B	6	6	4	103	53	56
HEPATITIS Non A - Non B	0	0	0	6	3	0
LISTERIOSIS	1	0	0	9	13	3
LYME DISEASE	0	1	1	0	3	2
MALARIA	3	0	0	19	5	8
MEASLES	1	0	0	36	2	1
MENINGOCOCCAL INFECTIONS	0	1	2	5	5	8
PELVIC INFLAMMATORY DISEASE	17	11	10	244	147	125
PERTUSSIS	2	2	1	3	5	3
RUBELLA	0	0	0	1	1	2
SALMONELLOSIS	12	11	14	125	119	111
SHIGELLOSIS	38	37	0	232	197	205
SYPHILIS, Total	75	55	23	628	484	269
SYPHILIS, Primary & Secondary	24	10	8	258	135	70
TUBERCULOSIS	25	26	24	234	223	243
TYPHOID FEVER	0	0	1	2	2	3
TOTAL DEATHS REPORTED THIS PERIOD	605	610		5814	5742	
Deaths from pneumonia and influenza	17	1		197	183	
Medical Examiner cases	110	105		1037	977	
Drug-related cases	15	14		157	211	
Cocaine-related cases	8	10		71	103	

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Vol. 8, No. 10 October 1992

SAN FRANCISCO
EPIDEMIOLOGIC BULLETIN

39 Temporal Trends in Opportunistic Infections in Patients with AIDS

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Temporal Trends in Opportunistic Infections in Patients With AIDS

Epidemiologic Data. The San Francisco City Clinic Cohort study (SFCCC), a prospective study of HIV disease progression, provides information about temporal trends in opportunistic infections. The cohort consists of 6,704 homosexual men who were recruited from the municipal sexually transmitted disease clinic from 1978-80 for studies of hepatitis B infection (1, 2). Beginning in October 1983, men from this cohort were enrolled in follow-up studies of AIDS.

The analysis reported here was limited to men in the cohort diagnosed with AIDS in San Francisco for whom a death certificate was available (N=1058) (3). To ascertain index and subsequent AIDS diagnoses, we combined information from the San Francisco AIDS Office Surveillance Branch (including chart reviews conducted every six months following an initial AIDS diagnosis) and death certificates. We used this information to estimate the proportion of men diagnosed with disseminated mycobacterium avium complex (DMAC), cytomegalovirus infection (CMV), and Pneumocystis carinii pneumonia (PCP) by year of death. Only the first diagnosis of each opportunistic infection is counted (e.g., if a patient had 2 episodes of PCP, only the first diagnosis is considered). For the analysis of time trends we used the year that the patient died instead of year of diagnosis of the specific infection because data on the exact year of diagnosis were lacking.

Table 1 demonstrates a significant increase in the proportion of patients who had DMAC and CMV and who survived to 1990-91 as compared to those who died earlier. The proportion of patients with DMAC has more than doubled from 18.9% of deaths in 1981-1985 to 40.1% of deaths in 1990-1991. In contrast there has been a trend toward fewer patients diagnosed with PCP over the same period of time. Improved diagnostic testing coupled with the lack of widely used effective prophylactic therapy for DMAC and CMV are possible explanations for changes observed in the occurrence of these infections.

Discussion. The life span of persons with AIDS (PWAs) has significantly increased since the epidemic began in the early 1980s (4). This increase is due, in part, to improvements in antiviral therapies, such as zidovudine (AZT) (5, 6) and improved treatment of opportunistic infections. Unfortunately antiviral therapies and treatment of opportunistic infections do not reconstitute the immune system; their use, however, has led to PWAs living longer with compromised immune systems. The increase in survival time with severe immune deficiency, in turn, has resulted in an increase in the occurrence of certain serious opportunistic infections. Prophylactic regimens targeted against specific opportunistic infections may reduce the incidence of these diseases.

DMAC. DMAC is caused by a mycobacterium related to the organism that causes tuberculosis. Unlike tuberculosis, however, DMAC does not appear to be transmitted person-to-person. It tends to occur in HIV-infected persons with low T-helper lymphocyte counts, usually below 100 cells. The organism can live in the lungs and the gastrointestinal tract, but does not necessarily cause disease in these sites. Disseminated infection causes high fevers, night sweats, and weight loss in HIV infected persons. When DMAC involves the liver, patients may experience nausea and vomiting, along with abnormalities of their liver function tests, especially the alkaline phosphatase levels. Observational studies have shown that treatment of DMAC increases survival for PWAs (7). However, treatment usually involves use of three to four drugs (usually rifampin, ethambutol, clofazamine, and ciprofloxacin) all of which have common side effects.

The development of effective prophylaxis is the best hope for control of DMAC. Unfortunately, to date, there are no drugs approved for prophylaxis of DMAC. Clarithromycin, as a single agent, has been shown to decrease the level of mycobacterium in the blood in patients with DMAC (8). Because this antibiotic has been approved for other uses and

is therefore available by prescription, some clinicians recommend its use as DMAC prophylaxis for patients with low T-cells. However, many investigators are concerned that combination therapy will be required to prevent DMAC because the organism readily develops resistance to single drug regimens.

Rifabutin, in early clinical trials, appears to be a promising new drug for DMAC prophylaxis (9, 10). Again, there is concern that single drug therapy may result in drug resistance. Rifabutin is currently available for treatment on an investigational new drug (IND) protocol. This is a special arrangement by the Food and Drug Administration (FDA), which allows drugs to be given to patients who are not enrolled in clinical trials. Physicians can enroll patients in this IND if the patient has a T-helper count less than 200 cells (800-552-7228).

CMV. CMV is a common organism that does not generally cause serious disease in immunologically competent hosts. In HIV-infected persons with low T-helper counts, CMV causes sight-threatening retinitis, colitis, meningitis, and hepatitis. Two drugs are available for treating active CMV disease: ganciclovir (DHPG) and foscarnet. However, both drugs must be given intravenously, are associated with serious side effects, and are not effective in all patients.

There are on-going efforts to develop treatments effective in preventing active CMV disease. One study compared high dose acyclovir to placebo in preventing CMV (11). Both groups had an equal number of CMV infections suggesting that acyclovir was not effective as prophylaxis. However, the group that received acyclovir lived longer. An oral preparation of ganciclovir is being tested as prophylaxis for CMV, but it is unknown whether an oral preparation will have sufficient absorption into the blood to prevent infections.

PCP. PCP remains the most common opportunistic infection in AIDS patients. It is caused by a protozoan which although primarily infecting the lung, can infect other organs, such as the spleen. Common symptoms are fever, shortness of breath and chest congestion. Chest radiographs typically show diffuse pneumonia, but can show a unilateral infiltrate or be completely normal. Several treatment regimens are available, including trimethoprim-sulfamethoxazole (Septra or Bactrim), pentamadine, and dapsone with trimethoprim. Treatment takes 14 to 21 days, and most PWAs will have side effects with these drugs. Prior to the advent of effective prophylaxis, most patients with PCP developed recurrences within a few months of their initial episode.

PCP prophylaxis has been proven to decrease the frequency of PCP in patients with a history of PCP, Kaposi's sarcoma, and in those with T-helper counts below 200 cells (12, 13). Septra/Bactrim appears to be the most effective drug for PCP prophylaxis currently available (14). Unfortunately, not all persons tolerate Septra/Bactrim; allergic reactions including rash and hepatitis are common. The Centers for Disease Control (CDC) recommend aerosolized pentamidine for persons who cannot tolerate Septra/Bactrim (15). Aerosolized pentamidine has almost no side effects, but the aerosolized particles do not spread evenly in the lung; often the result is that if Pneumocystis pneumonia occurs, it does so at the apex and peripheral areas of the lungs. PWAs with a history of Pneumocystis pneumonia who use aerosolized pentamadine are at increased risk of pneumothorax compared to PWAs who do not use this method of prophylaxis (16).

Many clinicians recommend dapsone for prophylaxis of Pneumocystis pneumonia. Because it is a systemic therapy it is thought to have a level of efficacy similar to Septra/Bactrim, but with fewer side effects. At the current time, however, the efficacy of dapsone is not well established, and there is ongoing debate concerning the optimal dose and the benefit of combination therapy with another drug (dapsone plus pyrimethamine) for more effective prophylaxis (17, 18). Several randomized controlled trials comparing the Septra/Bactrim to aerosolized pentamadine and to dapsone are in progress and should reveal the optimal choice and dose of drug.

Areas for Future Research and Development. To decrease the morbidity and mortality of HIV-infection, improved treatment as well as prophylactic therapies are needed. The first priority for the development of prophylaxis should be for DMAC and CMV because these infections affect a substantial proportion of PWAs. We know enough about the natural history of these infections to target regimens to those persons who would benefit most (i.e., those with low CD4 cell counts). Ideally these regimens should be available in oral form, be relatively inexpensive, and have few side effects. Data from epidemiologic cohorts help in the development of prophylactic regimens in two ways: identifying those infections which affect the largest proportion of persons; and demonstrating on a population basis the effectiveness of regimens such as prophylaxis of Pneumocystis pneumonia in decreasing the rate of disease over time.

Reported by: Research Branch, AIDS Office

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Table 1. Proportion of patients with AIDS diagnosed with DMAC, CMV and PCP by year of death, San Francisco City Clinic Cohort Study, 1981-1991

Year of Death	Total Number of Deaths	DMAC N	DMAC %	CMV N	CMV %	PCP N	PCP %
1981-1985	185	35	18.9	38	20.5	134	72.4
1986-1987	273	68	24.9	31	11.4	185	67.8
1988-1989	308	94	30.5	50	16.2	191	62.0
1990-1991	292	117	40.1*	85	29.1*	193	66.1+

* $p<.01$ for trend chi-square indicating significant increase in proportion of patients with DMAC and CMV; +$p=.10$ for trend indicating a small decrease in the proportion of patients with PCP

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING 10/3/92

DISEASE	CASES REPORTED WEEKS THROUGH 1990	1991	1992	TOTAL CASES REPORTED TO DATE 1990	1991	1992
AIDS	158	158	148	1618	1616	1434
AMEBIASIS	28	35	10	244	251	154
CAMPYLOBACTERIOSIS	77	103	73	608	646	555
CHANCROID	1	0	0	39	2	1
CHLAMYDIAL INFECTIONS	204	200	165	2089	1844	1694
GIARDIASIS	37	26	15	264	247	199
GONORRHEA	264	353	275	3222	2566	2137
H. INFLUENZAE INVASIVE DISEASE	1	1	0	21	12	10
HEPATITIS Type A	20	50	35	204	234	300
HEPATITIS Type B	3	3	6	106	56	62
HEPATITIS Non A - Non B	0	1	2	6	4	2
LISTERIOSIS	0	0	0	9	13	3
LYME DISEASE	1	0	0	1	3	2
MALARIA	1	1	1	20	6	9
MEASLES	1	0	0	37	2	1
MENINGOCOCCAL INFECTIONS	1	1	0	6	6	8
PELVIC INFLAMMATORY DISEASE	18	15	13	262	162	138
PERTUSSIS	0	0	0	3	5	3
RUBELLA	0	0	0	1	1	2
SALMONELLOSIS	26	16	37	151	135	148
SHIGELLOSIS	40	22	0	272	219	257
SYPHILIS, Total	92	48	31	720	532	300
SYPHILIS, Primary & Secondary	29	16	10	287	151	80
TUBERCULOSIS	32	32	31	266	255	274
TYPHOID FEVER	0	0	0	2	2	3
TOTAL DEATHS REPORTED THIS PERIOD	776	750		6590	6492	
Deaths from pneumonia and influenza	19	0		216	183	
Medical Examiner cases	145	177		1182	1154	
Drug-related cases	29	24		186	235	
Cocaine-related cases	20	15		91	118	

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Bureau of Epidemiology and Disease Control

Vol. 8, No. 11 November 1992

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

43 Trends in HIV Antibody Testing in San Francisco, April 1990-June 1992

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Trends in HIV Antibody Testing in San Francisco April 1990 - June 1992

Background. The San Francisco Department of Public Health (SFDPH) has offered human immunodeficiency virus (HIV) antibody testing at several sites in San Francisco since 1985. In April 1990, anonymous (ATS) and confidential (CTS) testing programs, historically offered by the Department as two distinct and separate services, were integrated and required to collect consistent demographic data from all participating sites. No name or locating information is requested in anonymous testing; name and locating information are a requirement of confidential testing.

This report examines trends in anonymous and confidential HIV testing during the twenty-seven month interval from April 1990 through June 1992. Previous HIV counseling and testing trends were reported in Vol. 7, No. 12 of this bulletin. During the current reporting period 54,540 tests were conducted, with a quarterly average of 6,060 tests.

Demographic Information. Anonymous HIV testing and counseling sites continue to be utilized at higher rates than confidential testing sites (Figure 1). Overall, anonymous testing represented 59% of all HIV tests. Selected demographic information is available on approximately 86% of the 54,540 clients tested for HIV antibodies. Men continue to be tested for HIV at considerably higher rates than women. During the period reported here, 71% of individuals tested were males, and 29% were females. Age distribution information was available on 86.5% of clients tested. Individuals 20-29 years old were the largest group tested (Table 1).

The racial/ethnic distribution of clients tested during this period is 66% White; 13.2% African American; 12.4% Latino; 6.5% Asian/Pacific Islander; 0.6% Native American and 1.8% Other (Figure 2,3). Racial/ethnic minority groups, including those who are bi-racial and clients who do not identify with the standard demographic minority categories, are becoming an increasing proportion of the HIV testing client population. During the second quarter of 1990, minorities represented <30% of clients tested. During the second quarter of 1992, 40% of clients tested were among minority groups. This upward trend is supported by earlier data from 1985 to 1988 which showed that these groups represented only 16% of clients tested (1).

Seroprevalence. The overall seropositive rate for individuals at testing sites has decreased from 9.7% during quarter two of 1990 to 5% in 1992 (Figure 4). The seroprevalence rates for men and women continue to differ, with males demonstrating a much higher rate of seropositivity (8.2% of males; 1.6% of females). The HIV seroprevalence of racial/ethnic groups selecting testing is presented in Table 2. The highest seroprevalence is among Native Americans although this group reflects a low proportion of clients tested. The rates presented here do not represent corresponding seropositivity of population groups in San Francisco; they describe only clients who visited HIV testing sites.

Editorial Note: There is a continuing debate about the ability of HIV antibody counseling and testing to effect a a behavior change (2,3,4,5,6,7). Nevertheless, counseling and testing programs are considered an essential prevention strategy in the management of the AIDS epidemic (8,9). Counseling and testing programs have been well utilized by the San Francisco community. In this twenty-seven month reporting period, of the 54,540 individuals tested, 3,515 were found to be HIV positive.

The increasing numbers of individuals choosing HIV testing and the corresponding declining seroprevalence rate, suggest that individuals at lower risk for HIV infection are being tested at increasing rates. Also

noteworthy, are the increasing rates of individuals choosing confidential testing services. During this report period, 48% of individuals were tested confidentially as opposed to 33% two years ago.

The SFDPH and their prevention subcontractors have made a concerted effort over the past two years to advertise and promote both types of testing; hence the gap in utilization of anonymous and confidential testing continues to narrow. Because name and locating information are shared with the provider as part of the confidential testing service, follow-up can be done and on-going health care and support services can be made available to the client. Although referrals can be made in conjunction with anonymous testing, follow-up is not possible. The SFDPH supports the policy of educating the public about both types of testing, thereby enabling all at-risk clients to make informed decisions about the type of testing that will meet individual health and psychosocial needs.

Since clients seeking counseling and testing are self-selected, this data cannot be used to estimate seroprevalence among either individual age and ethnic groups or the population as a whole. In addition, many individuals who utilize ATS programs are repeat testers and therefore represent duplicated test results. However, of significant interest in these data, is the incidence of HIV infection among San Francisco adolescents. A recent seroprevalence study of young gay and bisexual men, in which 12% of youth aged 17 to 25 were determined to be HIV positive (10), suggests the need for targeted interventions to younger gay men.

HIV counseling and testing increased among racial/ethnic minorities by 36.6% during this reporting period. The most recent increases in minority group participation in HIV testing are particularly noteworthy in light of coinciding media campaigns designed to promote testing among these groups. However, more refined analysis of testing trends with the timing of media campaigns is needed to substantiate this relationship. Additional data suggests that targeted prevention campaigns and disclosure of HIV status among celebrities have stimulated participation in HIV testing (9). As an example, testing rate increases were higher among minority group women following Magic Johnson's HIV disclosure (11).

HIV prevention campaigns are currently being designed to further increase awareness of risk among African/Americans and Latinos by community based organizations funded by the SFDPH AIDS Office Prevention Branch. During 1992/93, community based service providers will specifically target adolescents and communities of color. Additionally, the AIDS Office recommends the development of HIV testing education campaigns targeting Native Americans, as well as specific Asian/Pacific Islander populations.

Private physicians and community-based providers wishing to participate in the confidential testing program which includes HIV counselor training, laboratory services, technical assistance and distribution of a limited supply of educational brochures, should contact the AIDS Office at 554-9026.

Reported by: The Prevention Branch, AIDS Office

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TABLE 1. Clients by Age Group and Seroprevalence, HIV Antibody Counseling and Testing Programs, San Francisco, 1990-1992

Age	Tested	% HIV Seropositive
...<20	1,594	2.4%
20-29	18,349	4.8%
30-39	16,342	7.8%
40-49	7,588	7.5%
50-59	2,108	6.3%
...>60	956	2.8%

TABLE 2. Clients by Race/Ethnicity and HIV Seroprevalence, HIV Antibody Counseling and Testing Programs, San Francisco, 1990-1991

Race/Ethnicity	Tested	% HIV Seropositive
White	30,763	6.1%
African American	6,188	9.3%
Latino	5,802	6.8%
Asian/Pacific Is.	3,038	4.0%
Native American	290	10.3%
Other	849	3.8%

FIGURE 1. Anonymous and confidential HIV antibody testing, San Francisco, April 1990 - June 1992

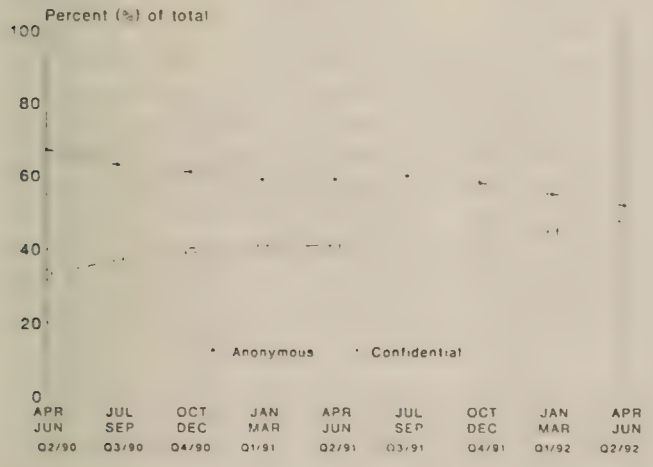

FIGURE 2. HIV antibody testing by racial/ethnic minorities, San Francisco, April 1990 - June 1992

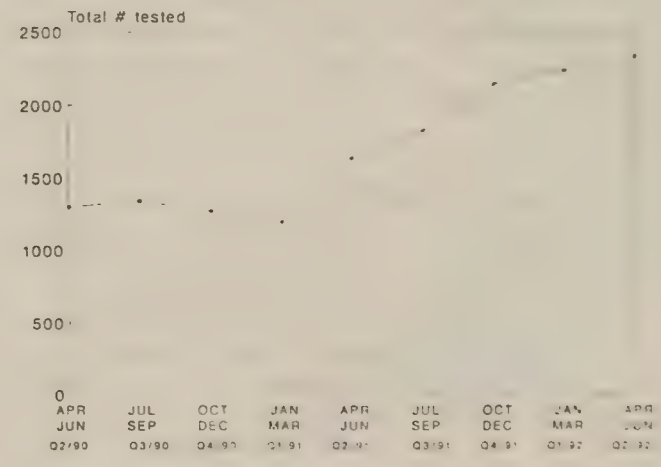

FIGURE 3. HIV antibody testing by race/ethnicity as compared to the percent of total testing, San Francisco, April 1990-June 1992

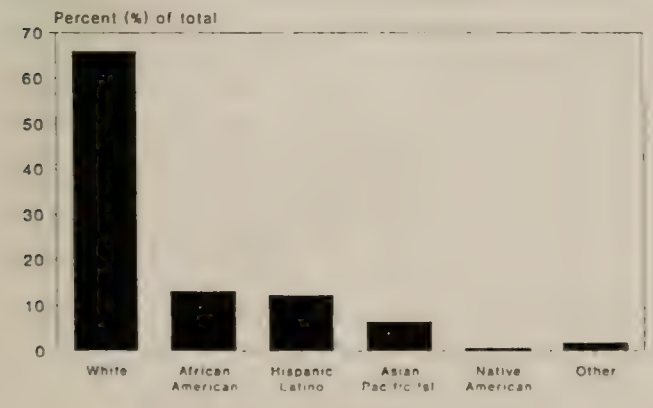

FIGURE 4. HIV seroprevalence of antibody testing site clients, San Francisco, April 1990 - June 1992

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING 10/31/92

DISEASE	CASES REPORTED WEEKS THROUGH 1990	1991	1992	TOTAL CASES REPORTED TO DATE 1990	1991	1992
AIDS	167	164	166	1785	1780	1600
AMEBIASIS	27	20	14	271	271	168
CAMPYLOBACTERIOSIS	66	40	57	674	686	612
CHANCROID	4	0	0	43	2	1
CHLAMYDIAL INFECTIONS	308	215	148	2397	2059	1842
GIARDIASIS	40	22	22	304	269	221
GONORRHEA	385	299	216	3607	2865	2353
H. INFLUENZAE INVASIVE DISEASE	2	0	0	23	12	10
HEPATITIS Type A	16	59	19	220	293	319
HEPATITIS Type B	6	13	6	112	69	68
HEPATITIS Non A - Non B	0	0	0	6	4	2
LISTERIOSIS	1	0	0	10	13	3
LYME DISEASE	0	0	0	1	3	2
MALARIA	5	2	1	25	8	10
MEASLES	0	1	0	37	3	1
MENINGOCOCCAL INFECTIONS	1	0	0	7	6	8
PELVIC INFLAMMATORY DISEASE	21	15	9	283	177	147
PERTUSSIS	0	0	0	3	5	3
RUBELLA	0	0	0	1	1	2
SALMONELLOSIS	26	20	25	177	155	173
SHIGELLOSIS	31	23	0	303	242	286
SYPHILIS, Total	101	51	11	821	583	311
SYPHILIS, Primary & Secondary	41	14	7	328	165	87
TUBERCULOSIS	27	28	21	293	283	295
TYPHOID FEVER	0	0	0	2	2	3
TOTAL DEATHS REPORTED THIS PERIOD	648	660		7238	7152	
Deaths from pneumonia and influenza	20	1		236	184	
Medical Examiner cases	121	128		1303	1282	
Drug-related cases	26	15		212	250	
Cocaine-related cases	15	8		106	126	

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Vol. 8, No. 12 December 1992

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

Survival for Women and Men With AIDS, San Francisco, 1981-1990

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Survival For Women and Men With AIDS, San Francisco 1981-1990

Introduction. Previous studies have suggested that survival following diagnosis of acquired immunodeficiency syndrome (AIDS) may be shorter for women than for men [1-4]. However, no studies to date have examined the impact of therapy on temporal trends in survival by gender. To answer this question, we compared survival trends for women and men diagnosed with AIDS in San Francisco, and examined the relative effect of antiviral therapy and other factors, on differences in survival by gender.

Methods. Survival following diagnosis of AIDS was calculated based upon data from 139 women and 7045 men diagnosed with AIDS in San Francisco between January, 1, 1981 and December 31, 1990. Patients were followed up prospectively at six-month intervals through May 15, 1991. Patients initially diagnosed with Kaposi's sarcoma only were excluded since the disease was rarely diagnosed among women and its inclusion would bias the results towards longer survival for men relative to women.

Vital status, subsequent diagnoses, and history of antiviral therapy or Pneumocystis carinii pneumonia prophylaxis was ascertained for each patient through prospective follow-up, which included reviewing medical records and/or contacting physicians at approximately 6-month intervals.

All analyses assessing the effect of antiretroviral therapy on survival were based on data from patients who were diagnosed between January 1, 1987 and December 31, 1990. This time period was chosen because antiretroviral therapy first became widely available in San Francisco in 1987. Information on therapy was available for 2,499 (49.7%) of 5,033 patients with AIDS diagnosed between 1987 and 1990, including 54.4% of women and 49.5% of men.

Median survival and the cumulative probability of survival at one year after diagnosis were calculated using the Kaplan-Meier product-limit method (P1L procedure within the BMDP statistical software package) [5].

Cox proportional hazards regression analysis (P2L procedure [BMDP]) [6] was used to construct a proportional hazards model for predicting length of survival and to identify the independent predictors of survival among those variables studied. The model was constructed using a stepwise procedure (maximum partial likelihood ratio method) with a P value of .10 as the entry criterion and of .15 as the removal criterion at each step.

Results. Survival following diagnosis for women with AIDS was significantly shorter than that for men (Table 1). When stratified by year of diagnosis, survival improved over time for both women and men, although survival for women remained significantly shorter than that for men. The observed differences in survival by gender were unaffected when persons diagnosed at death were excluded from the analysis.

Among women, older age (median survival of 3.2 months for those aged 60 and older versus 20 months for those aged 20 to 29) and infection via transfusion (median survival of 3.6 months versus 12.8 and 17.1 months for patients infected via injection drug use and heterosexual contact, respectively) were associated with decreased survival. Survival did not differ significantly by race or ethnicity.

Use of either zidovudine (AZT) or 2',3'-dideoxyinosine (ddI) was associated with increased survival for both women ($P < .005$) and men ($P < .001$) (Table 2). Among those who used either zidovudine or ddI, survival did not differ for men and women. However, men who did not use zidovudine or ddI survived longer than did women in the same category.

We controlled for the potential effects of confounders on survival in a proportional hazards model. The patients' initial diagnoses were the best independent predictors of survival, followed by the patients' age, whether they received therapy with zidovudine or ddI, version of the case definition, and acquiring HIV infection through a blood transfusion. Gender, race or ethnicity, and year of diagnosis were not significant predictors and were excluded by the model. This model suggests that the shorter survival observed for women is due to factors other than gender.

The proportional hazards model also suggests that improved survival for both women and men was associated with younger age, use of zidovudine or ddI, an initial diagnosis of Pneumocystis carinii pneumonia only, and an initial diagnosis of one opportunistic infection only. Survival was shorter for transfusion recipients and for patients diagnosed under the 1987 revision of the case definition. After controlling for therapy, year of diagnosis was excluded from the final model due to a lack of significance.

Editorial Note. This study indicates that survival following diagnosis of AIDS has improved for both men and women in recent years, although survival for women remains significantly shorter than that for men. The data also suggest that therapy may be partially responsible for these recent improvements in survival.

Recent studies have suggested that women with AIDS may have a lower use of health care resources [7] and less use of zidovudine therapy [4] when compared with men. In our study, persons using zidovudine or ddI were more likely to be white, homosexual or bisexual men, and were less likely to be women. Therefore, decreased access to and or lack of utilization of antiretroviral therapy may partly explain the shorter survival observed for women.

Other factors such as older age, other competing health risks and diagnosis later in the course of HIV infection may also partly explain the shorter survival for women. Because of the limited clinical and laboratory information available, it is uncertain whether the shorter survival in women could also be attributed to diagnosis later in the course of HIV infection. A later diagnosis among women could reflect poorer access to care or a lack of awareness regarding HIV status. In addition, the observed temporal improvements in survival for women and men could reflect diagnosis earlier in the course of HIV infection. However, other studies which controlled for CD4 cell counts at the time of diagnosis demonstrated benefits from therapy [8] and recent improvements in survival [9].

Because these data are observational in nature, they should not be used to evaluate the clinical safety and efficacy of drug therapy, which is more properly evaluated in carefully controlled clinical trials. Instead, this study may be used as confirmatory evidence of longer survival for persons utilizing antiviral therapy.

By 1987, HIV/AIDS had become the eighth leading cause of death among women of reproductive age in the United States. By 1991, HIV/AIDS was expected to become one of the five leading causes of death among women of reproductive age [10]. Despite these trends, the natural history of HIV infection in women has not been well characterized. Relatively few women have been included in clinical drug trials or in epidemiologic cohort studies. Recent reports have suggested that these concerns are part of a broader problem of inadequate research, diagnosis and treatment for women's health care problems [11].

Recent advances in therapy provide hope that survival will continue to improve for both men and women with AIDS. Providing access for both women and men to HIV testing and counseling, and early monitoring and medical intervention is needed to help bridge the gender gap in survival following a diagnosis of AIDS.

Reported by: Surveillance Branch, AIDS Office

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TABLE 1. Length of survival by year of diagnosis for women and men diagnosed with AIDS in San Francisco, 1981 - 1990

Year(s) of diagnosis	Number (n)	Median survival (months)	% Surviving 1 Year*
Women			
1981-1985	(12)	1.1	22.1 ± 12.5
1986-1987	(22)	3.4	32.8 ± 10.6
1988-1990	(105)	13.4	53.8 ± 5.3
Men			
1981-1985	(1162)	9.7	40.4 ± 1.4
1986-1987	(2151)	14.5	56.6 ± 1.1
1988-1990	(3732)	17.0	61.3 ± 0.8
Total			
Women	(139)	11.1	47.7 ± 4.5
Men	(7045)	14.6	56.1 ± 0.6

NOTE: Patients with an intial diagnosis of Kaposi's sarcoma were excluded.
P for women versus men < .05 (1981-1985 and 1988-1990) or < .005 (1986-1987) by Wilcoxon test comparing survival curves.
*Cumulative percentage ± SE.

TABLE 2. Length of survival by gender for AIDS patients treated with zidovudine or ddI, San Francisco, 1987 - 1990

Treatment Category	Number (n)	Median survival (months)	%Surviving 1 year*
Women			
Using AZT or ddI	(38)	19.2	70.5 ± 8.0
Not using AZT or ddI	(24)	6.4	30.6 ± 12.1
Men			
Using AZT or ddI	(1753)	21.8	70.6 ± 1.2
Not using AZT or ddI	(684)	14.6	57.5 ± 2.0

NOTE: patients with intial diagnosis of Kaposi's sarcoma were excluded.
P for women versus men .63 (NS) using AZT or ddI or <.005 not using AZT or ddI by Wilcoxon test comparing survival curves.
*Cumulative percentage ± SE.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING 11/28/92

DISEASE	CASES REPORTED WEEKS 45 THROUGH 48			TOTAL CASES REPORTED TO DATE		
	1990	1991	1992	1990	1991	1992
AIDS	167	151	151	1952	1931	1751
AMEBIASIS	16	26	14	287	297	182
CAMPYLOBACTERIOSIS	46	61	37	720	747	649
CHANCROID	1	0	0	44	2	1
CHLAMYDIAL INFECTIONS	233	161	139	2630	2220	1981
GIARDIASIS	16	25	23	320	294	244
GONORRHEA	270	268	196	3877	3133	2549
H. INFLUENZAE INVASIVE DISEASE	1	2	0	24	14	10
HEPATITIS Type A	34	57	24	254	350	343
HEPATITIS Type B	20	2	2	132	71	70
HEPATITIS Non A - Non B	3	0	1	9	4	3
LISTERIOSIS	0	3	0	10	16	3
LYME DISEASE	1	1	0	2	4	2
MALARIA	3	0	0	28	8	10
MEASLES	0	0	0	37	3	1
MENINGOCOCCAL INFECTIONS	1	0	0	8	6	8
PELVIC INFLAMMATORY DISEASE	19	23	16	302	200	163
PERTUSSIS	0	0	1	3	5	4
RUBELLA	0	0	0	1	1	2
SALMONELLOSIS	21	28	22	198	183	195
SHIGELLOSIS	29	15	0	332	257	314
SYPHILIS, Total	57	52	7	878	635	318
SYPHILIS, Primary & Secondary	25	12	2	353	177	89
TUBERCULOSIS	17	24	18	310	307	313
TYPHOID FEVER	0	7	0	2	9	3
TOTAL DEATHS REPORTED THIS PERIOD	603	595		7841	7747	
Deaths from pneumonia and influenza	16	0		252	184	
Medical Examiner cases	114	105		1417	1387	
Drug-related cases	12	29		224	279	
Cocaine-related cases	5	16		111	142	

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Vol. 9, No.1 January 1993

1 Revision of the HIV Infection Classification System and the AIDS Surveillance Definition

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

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1993 Revision of the HIV Infection Classification System and the AIDS Surveillance Definition

Please note comment by San Francisco Department of Public Health on page 4.

The Centers for Disease Control and Prevention (CDC) have published a revised classification system for HIV infection and an expanded surveillance case definition for AIDS among adults and adolescents. Revisions in the classification system for HIV infection emphasize the clinical importance of the CD4+ T-lymphocyte count in the categorization of HIV-related clinical conditions. This classification system replaces the system published by CDC in 1986 and is primarily intended for use in public health practice. Consistent with the 1993 revised classification system, CDC has also expanded the AIDS surveillance case definition to include all HIV-infected persons who have <200 CD4+ T-lymphocytes/ μL, or a CD4+ T-lymphocyte percentage of total lymphocytes <14. This expansion also includes the addition of three clinical conditions - pulmonary tuberculosis, recurrent pneumonia, and invasive cervical cancer - while retaining the 23 clinical conditions in the AIDS surveillance case definition published in 1987. It is to be used by all states for AIDS case reporting effective January 1, 1993. The following is excerpted and summarized from the CDC document. For further discussion of the arguments for these revisions and expansions, as well as definitions, please refer to the original document. The unabridged document can be found in MMWR Recommendations and Reports, December 18, 1992 [vol. 41 (No. RR-17), pages 1-19].

Revised HIV Classification System For Adolescents and Adults

The classification system for HIV infection among adolescents and adults has been revised to include the CD4+ T-lymphocyte count as a marker for HIV-related immunosuppression. This revision establishes mutually exclusive subgroups for which the spectrum of clinical conditions is integrated with the CD4+ T-lymphocyte count. The objectives of these changes are to simplify the classification of HIV infection, to reflect current standards of medical care for HIV-infected persons, and to categorize more accurately HIV-related morbidity.

The revised CDC classification system for HIV-infected adolescents and adults categorizes persons on the basis of clinical conditions associated with HIV infection and CD4+ T-lymphocyte counts. The system is based on three ranges of CD4+ T-lymphocyte counts and three clinical categories and is represented by a matrix of nine mutually exclusive categories (Table 1). This system replaces the classification system published in 1986, which included only clinical disease criteria and which was developed before the widespread use of CD4+ T-cell testing.

1993 Revision of Adult and Adolescent Case Definition for AIDS for Surveillance Purposes

In the revised HIV classification system, persons in subcategories A3, B3, and C3 meet the immunologic criteria of the surveillance case definition, and those persons with conditions in subcategories C1, C2 and C3 meet the clinical criteria for surveillance purposes (Table 1).

For national reporting, a case of AIDS is defined as an illness characterized by one or more of the following "indicator" conditions, depending on the status of laboratory evidence of HIV infection, as shown below.

I. Without Laboratory Evidence Regarding HIV Infection

If laboratory tests for HIV were not performed or gave inconclusive results and the patient had no other cause of immunodeficiency listed in Section 1.A below, then any disease listed in Section 1.B indicates AIDS if it was diagnosed by a definitive method.

A. Causes of immunodeficiency that disqualify diseases as indicators of AIDS in the absence of laboratory evidence for HIV infection

1. high-dose or long-term systemic corticosteroid therapy or other immunosuppressive/cytotoxic therapy $\leq$ 3 months before the onset of the indicator disease.
2. any of the following diseases diagnosed $\leq$ 3 months after diagnosis of the indicator disease: Hodgkin's disease, non-Hodgkin's lymphoma (other than primary brain lymphoma), lymphocytic leukemia, multiple myeloma, any other cancer of lymphoreticular or histiocytic tissue, or angioimmunoblastic lymphadenopathy
3. a genetic (congenital) immunodeficiency syndrome or an acquired immunodeficiency syndrome atypical of HIV infection, such as one involving hypogammaglobulinemia

B. Indicator diseases diagnosed definitively

1. candidiasis of the esophagus, trachea, bronchi, or lungs
2. cryptococcosis, extrapulmonary
3. cryptosporidiosis with diarrhea persisting > 1 month
4. cytomegalovirus disease of an organ other than liver, spleen, or lymph nodes in a patient > 1 month of age
5. herpes simplex virus infection causing a mucocutaneous ulcer that persists longer than 1 month; or bronchitis, pneumonitis, or esophagitis for any duration affecting a patient > 1 month of age
6. Kaposi's sarcoma affecting a patient <60 years of age
7. lymphoma of the brain (primary) affecting a patient <60 years of age
8. Mycobacterium avium complex or M. kansasii disease, disseminated (at a site other than or in addition to lungs, skin, or cervical or hilar lymph nodes)
9. Pneumocystis carinii pneumonia
10. progressive multifocal leukoencephalopathy
11. toxoplasmosis of the brain affecting a patient > 1 month of age

II. With Laboratory Evidence for HIV Infection

Regardless of the presence of other causes of immunodeficiency (I.A.), in the presence of laboratory evidence for HIV infection, any disease listed above (I.B.) or below (II.A or II.B) indicates a diagnosis of AIDS.

A. Indicator conditions diagnosed definitively

1. CD4 T-lymphocyte count <200 cells/μl, or CD4 T-lymphocyte percent < 14
2. recurrent pneumonia, more than 1 episode in a 1-year period.
3. cervical cancer, invasive
4. coccidioidomycosis, disseminated (at a site other than or in addition to lungs or cervical or hilar lymph nodes)
5. HIV encephalopathy (also called "HIV dementia", "AIDS dementia", or "subacute encephalitis due to HIV")
6. histoplasmosis, disseminated (at a site other than or in addition to lungs or cervical or hilar lymph nodes)
7. isosporiasis with diarrhea persisting > 1 month
8. Kaposi's sarcoma at any age
9. lymphoma of the brain (primary) at any age

10. other non-Hodgkin's lymphoma of B-cell or unknown immunologic phenotype and the following histologic types:
    a. small noncleaved lymphoma (either Burkitt's or non-Burkitt's type)
    b. immunoblastic sarcoma (equivalent to any of the following, although not necessarily all in combination: immunoblastic lymphoma, large-cell lymphoma, diffuse histiocytic lymphoma, diffuse undifferentiated lymphoma, or high-grade lymphoma)

    Note: Lymphomas are not included here if they are of T-cell immunologic phenotype or their histologic type is not described or is described as "lymphocytic", "lymphoblastic", "small cleaved", or "plasmacytoid lymphocytic"
11. any mycobacterial disease caused by mycobacteria other than M. tuberculosis, disseminated (at a site other or in addition to lungs, skin, or cervical or hilar lymph nodes)
12. disease caused by M. tuberculosis, pulmonary or extrapulmonary
13. Salmonella (nontyphoid) septicemia, recurrent
14. HIV wasting syndrome (emaciation, "slim disease")

B. Indicator diseases diagnosed presumptively

Note: Given the seriousness of diseases indicative of AIDS, it is generally important to diagnose them definitively, especially when therapy that would be used may have serious side effects or when definitive diagnosis is needed for eligibility for antiretroviral therapy. Nonetheless, in some situations, a patient's condition will not permit the performance of definitive tests. In other situations, accepted clinical practice may be to diagnose presumptively based on the presence of characteristic clinical and laboratory abnormalities.

1. recurrent pneumonia, more than 1 episode in a 1-year period
2. candidiasis of the esophagus
3. cytomegalovirus retinitis with loss of vision
4. Kaposi's sarcoma
5. M. tuberculosis, pulmonary
6. mycobacterial disease (acid-fast bacilli with species not identified by culture), disseminated (involving at least one site other than or in addition to lungs, skin, or cervical or hilar lymph nodes)
7. Pneumocystis carinii pneumonia
8. toxoplasmosis of the brain affecting a patient > 1 month of age

III. With Laboratory Evidence Against HIV Infection

With laboratory test results negative for HIV infection, a diagnosis of AIDS for surveillance purposes is ruled out unless:

A. all the other causes of immunodeficiency listed in Section 1.A are excluded; AND
B. the patient has had either:
1. Pneumocystis carinii pneumonia diagnosed by a definitive method; OR
2. a. any of the other diseases indicative of AIDS listed above in Section 1.B diagnosed by a definitive method; AND
   b. a T-helper/inducer (CD4) lymphocyte count < 400/mm^3.

San Francisco Comment

The previous AIDS case definition, which was last revised in 1987, was based primarily on the clinical syndromes commonly found and reported in HIV immune suppressed gay and bisexual men. The revised definition will no longer rely solely on clinical manifestations, but rather will characterize AIDS as a chronic disease manifested by a progressive loss of CD4 cells and immune suppression. The addition of pulmonary tuberculosis, recurrent pneumonia, and invasive cervical cancer will also help provide a more accurate picture of the scope of the epidemic among women and injection drug users.

The San Francisco Department of Public Health predicts that there will be an immediate doubling or tripling of persons living with AIDS in San Francisco following the expansion of the case definition. The Department has projected that the number of persons living with AIDS in San Francisco will nearly triple in the next five years, from 3,568 prior to the change in definition to 9,541 persons by the end of 1997 under the expanded definition. People will be reported earlier in the course of HIV infection, and therefore will be living with AIDS for a longer time period. The Department also predicts that approximately 4,000 to 6,000 new AIDS cases will be reported in San Francisco during 1993, a significant increase over the 2,000 cases that would have been expected under the old case definition.

The effectiveness of the revision will depend, in part, on how extensively CD4+ T-lymphocyte count testing is utilized. Those persons with HIV infection and a CD4 count below 200 are expected, on average, to be diagnosed with AIDS approximately 1.6 years earlier in the course of their illness when compared with those persons diagnosed under one of the 23 manifestations comprising the old case definition. Although the change in definition does not alter an individual's clinical course of disease, it may cause concerns for some persons who will be diagnosed with AIDS while still relatively asymptomatic.

Persons who are especially concerned about confidentiality might avoid having CD4 counts, or even obtaining HIV antibody tests, thereby compromising their care. The Department plans to support efforts to strengthen confidentiality legislation and to include provisions to protect the confidentiality of CD4 tests. In addition, extensive procedures are already in place to protect the confidentiality of all persons reported with AIDS in San Francisco. These include: the removal of names and other identifying information before records are transmitted to the State or to the CDC; strict guidelines for the release of aggregate data; and the use of security safeguards to protect both the computerized and paper records.

The San Francisco Department of Public Health strongly encourages physicians and other health care providers to report all cases which meet the expanded case definition of AIDS. It is fully consistent with California law for health care providers to cooperate with representatives of the County Health Officer in reporting AIDS cases. The Confidentiality of Medical Information Act [California Civil Code Section 56.10 (b)(7) and 56.30 (c)] states that patient medical information may be disclosed without prior authorization when specifically required by law such as in compliance with communicable disease reporting requirements. Sections 199.21(i) and 199.21(1) of the Health and Safety Code state that results of HIV tests may be disclosed to the Health Officer in accordance with AIDS case reporting requirements. Patient information gathered by the AIDS Surveillance Branch is held in accordance with the AIDS Public Health Record Confidentiality Act (Section 199.42 Health and Safety Code).

It is critical that reporting be as complete as possible since the distribution of Federal and State AIDS funds (i.e. Ryan White Care Funds) to cities and counties is determined by the number of reported cases. In addition, complete and accurate reporting will enable more exact assessment of the impact of the AIDS epidemic and will further elucidate current and future health care needs of San Francisco residents.

The San Francisco Department of Public Health and a broad coalition of community-based organizations and patient advocates support the expanded definition because it is expected to provide a more accurate characterization of the size and scope of the HIV/AIDS epidemic, particularly among women and injection drug users. The expansion is expected to focus attention on the magnitude of the epidemic and should strengthen the efforts to advocate for services for persons with HIV/AIDS. The new definition is not expected to affect Social Security's determination of disability. HIV-infected persons may qualify for Social Security benefits if they are functionally disabled. Conversely, an AIDS diagnosis without functional disablity may not provide automatic eligibility for benefits.

TABLE 1. 1993 revised classification system for HIV infection and expanded AIDS surveillance case definition for adolescents and adults*

CD4+ T-cell categories	Clinical categories		
	(A) Asymptomatic, acute (primary) HIV or PGL†	(B) Symptomatic, not (A)or (C) conditions§	(C) AIDS-indicator conditions¶
(1) ≥500/μL	A1	B1	C1
(2) 200-499/μL	A2	B2	C2
(3)<200/μL AIDS-indicator T-cell count	A3	B3	C3

*Persons with AIDS indicator conditions (Category C) as well as those with CD4+ T-lymphocyte counts <200/μL (Categories A3 or B3) will be reportable as AIDS cases in the United States and Territories, effective January 1, 1993.
†PGL= persistent generalized lymphadenopathy. Clinical Category A includes acute (primary) HIV infection.
§For a list of possible conditions see original CDC document.
¶Category C includes the clinical conditions listed in the AIDS surveillance definition in Appendix B of the orignial CDC document.

For further information contact the Surveillance Branch, AIDS Office, San Francisco Department of Public Health (415) 554-9050.

Errata

Please note the changes in year end numbers for reported AIDS cases in San Francisco, 1981-1992.

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
*	24	94	248	502	753	1121	1456	1605	1913	2094	2051	
**	21	75	200	456	675	988	1298	1441	1637	1752	1760	1731

* Numbers published in the S.F. Epidemiologic Bulletin, Vol. 8. No. 1, January 1992.
** Numbers corrected to omit duplications, errors, and out-of-jurisdiction residents.

NOTE: As of January 1993 reported cases of AIDS published in the Epidemiologic Bulletin will include only San Francisco residents.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING 01/02/93

* please note errata on preceding page

DISEASE	CASES REPORTED WEEKS 49 THROUGH 53			TOTAL CASES REPORTED TO DATE			
	1990	1991	1992	1990	1991	1992	
AIDS	141	120	171	1752	1760	1731	*
AMEBIASIS	31	18	13	318	315	195	
CAMPYLOBACTERIOSIS	61	41	62	781	788	711	
CHANCROID	3	0	0	47	2	1	
CHLAMYDIAL INFECTIONS	204	165	264	2834	2385	2245	
GIARDIASIS	29	20	19	349	314	263	
GONORRHEA	288	244	298	4165	3377	2487	
H. INFLUENZAE INVASIVE DISEASE	0	5	0	24	19	10	
HEPATITIS Type A	18	34	38	272	384	381	
HEPATITIS Type B	22	9	6	154	80	76	
HEPATITIS Non A - Non B	0	0	0	9	4	3	
LISTERIOSIS	0	1	0	10	17	3	
LYME DISEASE	0	0	1	2	4	3	
MALARIA	1	0	5	29	8	15	
MEASLES	0	0	0	37	3	1	
MENINGOCOCCAL INFECTIONS	0	0	0	8	6	8	
PELVIC INFLAMMATORY DISEASE	18	13	19	320	213	182	
PERTUSSIS	0	0	1	3	5	5	
RUBELLA	0	0	0	1	1	2	
SALMONELLOSIS	15	15	23	213	198	218	
SHIGELLOSIS	29	17	0	361	274	340	
SYPHILIS, Total	58	40	15	936	675	333	
SYPHILIS, Primary & Secondary	26	8	6	379	185	95	
TUBERCULOSIS	24	29	35	334	336	348	
TYPHOID FEVER	0	0	0	2	9	3	

TOTAL DEATHS REPORTED THIS PERIOD	720	793	8561	8540
Deaths from pneumonia and influenza	20	6	272	190
Medical Examiner cases	137	179	1554	1566
Drug-related cases	18	38	242	317
Cocaine-related cases	11	26	122	168

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Bureau of Epidemiology and Disease Control

Vol. 9, No. 2, February 1993

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

7 Hepatitis C Virus Infection Among Patients Attending a Clinic for Sexually Transitted Diseases, San Francisco, 1990
11 Lead Posioning Prevention Update

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Hepatitis C Virus Infection Among Patients Attending a Clinic for Sexually Transmitted Diseases, San Francisco, 1990

Introduction. Non-A, non-B hepatitis accounts for 20-40% of acute viral hepatitis reported in the United States, the majority of which is caused by the hepatitis C virus (HCV) (1). It is currently estimated that approximately 150,000-170,000 HCV infections occur annually in the United States. On the whole, about 50% of patients with non-A, non-B hepatitis develop evidence of chronic liver disease regardless of the source for their infection (2,3). While most transfusion associated hepatitis is hepatitis C, HCV infection is more likely to occur as a result of other exposures; only six percent of reported cases are associated with receiving a transfusion (1). Parenteral drug use, occupational exposure to blood, and hemodialysis have also been established as risk factors for HCV infection. While sexual activity has been implicated in the transmission of hepatitis B virus (HBV) infection, its role as a mechanism for the transmission of HCV is less clear (4,5,). In order to better understand the role of sexual behavior in the transmission of HCV, we screened patients attending the San Francisco clinic for sexually transmitted diseases (STD) for evidence of HCV infection.

Methods. From June to July 1990 all patients attending the public STD clinic for a new problem and having routine syphilis serologies performed were screened for antibody to HCV (anti-HCV) and antibody to hepatitis B core antigen (anti-HBc). A positive anti-HCV test was defined as a repeatedly reactive enzyme immunoassay (EIA) and a positive neutralization EIA (Abbott Laboratories, North Chicago, Ill.).

Patients' laboratory results were linked with their responses to a confidential questionnaire routinely recorded in the medical record and administered by the examining clinicians. Information collected included: demographic characteristics; past history of sexually transmitted diseases; history of blood transfusions; sexual orientation; numbers of sexual partners in the prior three months; lifetime sexual practices; and history of drug use.

The Mantel-Haenszel chi-square was used with categorical variables to evaluate factors associated with a positive anti-HCV test. Logistic regression analysis was performed in order to control for possible confounding factors. Factors associated with a positive anti-HCV test in the univariate analysis were included in the models examined. In addition, a history of more than one sexual partner in the previous three months was included in the multivariate analysis. Information for all of these variables was available for 68% of the total study population. The positivity rate for anti-HCV among these patients was 6.9%. A stepwise backward elimination process was used. Only variables with p values of 0.05 or less were included in the final model.

Results. Of 1,549 patients who entered the clinic for care with a new problem during the one-month period of the study, 1,292 (83%) were screened for anti-HCV. Of the patients screened, 862 (67%) were older than 24 years of age; 291 (23%) were women; 88 (7%) were Asian; 478 (37%) were black; 213 (17%) were Hispanic; and 504 (39%) were white. Nine (0.7%) patients were from other racial or ethnic groups.

Of the 1,292 patients screened, 99 (7.7%) were positive for anti-HCV, including 27 (9.3%) of the 291 women and 72 (7.2%) of the 1,001 men. Positivity rates by age group are shown in the figure. The mean age of those positive was 33 years (standard deviation, $\pm$ 7.4), compared with a mean age of 30 among the overall patient population (standard deviation, $\pm$ 9.2, $p<0.001$). Positivity rates for anti-HCV according to race were: 3.4% among Asians, 11.5% among blacks, 4.2% among Hispanics, and 6.2% among whites.

In a univariate analysis examining possible sexual risk factors for HCV infection, patients who were anti-

HCV positive were more likely to have reported having sex with an intravenous drug user and to have reported a prior history of gonorrhea or syphilis than patients who were anti-HCV negative. While, in a univariate analysis, anti-HBc positivity was associated with gender, sexual orientation, multiple sexual partners within the previous three months, and a past history of receptive anal intercourse, these factors were not associated with being anti-HCV positive. When patients were stratified by sexual orientation, the findings were similar for both homosexuals and heterosexuals. Neither homosexuals nor heterosexuals who were anti-HCV positive were more likely to have reported either multiple sexual partners within the previous three months or a history of ever having had receptive anal intercourse.

When other characteristics were examined in a univariate analysis, patients who were anti-HCV positive were thirteen times more likely to have reported intravenous drug use than patients who were anti-HCV negative; 45% (45/99) of patients who were anti-HCV positive reported intravenous drug use. Conversely, 36% (45/126) of patients who reported intravenous drug use were anti-HCV positive.

Patients who were anti-HCV positive were over five times more likely to be anti-HBc positive than patients who were anti-HCV negative. This association was similar both among patients who reported intravenous drug use and among those who denied it. Anti-HBc positive patients accounted for 65 (66%) of 99 patients in the study population who were anti-HCV positive, including 21 (21%) patients who denied a history of intravenous drug use. Patients who were anti-HCV positive were also more likely to have reported crack cocaine use, to have been older than age 24, to have reported a history of a blood transfusion, and to be black.

We performed logistic regression analysis in order to determine which factors were independently associated with having anti-HCV. In the final model, five factors were found to be independently and statistically associated with having anti-HCV (Table 1): intravenous drug use, anti-HBc positivity, a history of a blood transfusion, black race, and crack cocaine use. Multiple sexual partners within the previous three months, a history of gonorrhea or syphilis, and a history of sex with an intravenous drug user were not associated with being anti-HCV positive in the logistic regression analysis.

Editorial Note. These findings suggest that, in this STD clinic population, intravenous drug use is the predominant risk factor for HCV infection. While just 10% of the patient population reported intravenous drug use, those who did accounted for 45% of patients with HCV infection. Patients with a history of a blood transfusion accounted for another 10% of HCV infections. The failure to find other commonly recognized risk factors for 45% of patients positive for anti-HCV is consistent with other reports examining risk factors for both hepatitis B, non-A, non-B hepatitis, and hepatitis C (1,4,6,7).

These results do not support sexual activity as a mode of transmission. No specific sexual behavior correlated with anti-HCV. A history of sexually transmitted diseases and sex with an intravenous drug user, when controlled for confounding factors, did not appear to be risk factors for acquiring anti-HCV. Receptive anal intercourse, multiple sexual partners, and homosexuality were also not associated with anti-HCV although these were risk factors for hepatitis B virus infection.

Sixty-six percent of patients with anti-HCV, including 21% who denied intravenous drug use, had anti-HBc. Whether anti-HBc is a marker for risk factors like surreptitious intravenous drug use (as the association of crack cocaine use with anti-HCV might also be) or for behaviors not considered here is unclear. It is doubtful that anti-HBc is a marker for sexual behavior in the multivariate analysis.

The findings reported here may be limited by patients' underreporting or inaccurate reporting of risk behaviors, particularly, of intravenous drug use. The results of the full logistic regression model may also be limited as information about patients with all variables was available for only 68% of the total patient population. Any misclassification or missing information, however, would have likely resulted in the failure to find an association with anti-HCV. Failure to find an association between numbers of sexual partners and anti-HCV may be due to our questioning only about sexual partners within the prior three months. However, multiple sexual partners within the prior three months was associated with anti-HBc. Additionally, we may have underestimated the seroprevalence of HCV in this patient population. Not only may the time required for seroconversion be long (8) but the first generation assay used here may have failed to identify patients either with low titers of anti-HCV or with antibodies to other antigens of HCV (9).

Nevertheless, while these results cannot exclude a role for the sexual transmission of HCV, they do suggest

that, in this sexually active population, the sexual transmission of HCV occurs infrequently and that HCV is predominantly associated with intravenous drug use. The source of infection for the patients who do not report using intravenous drugs or report a transfusion history is unknown and requires further study.

Reported by: Division of STD Control
This article appeared in a longer form in JAMA 1993 269:392-394.

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FIGURE 1. Anti-HCV positivity by age group among STD Clinic patients, San Francisco, 1990

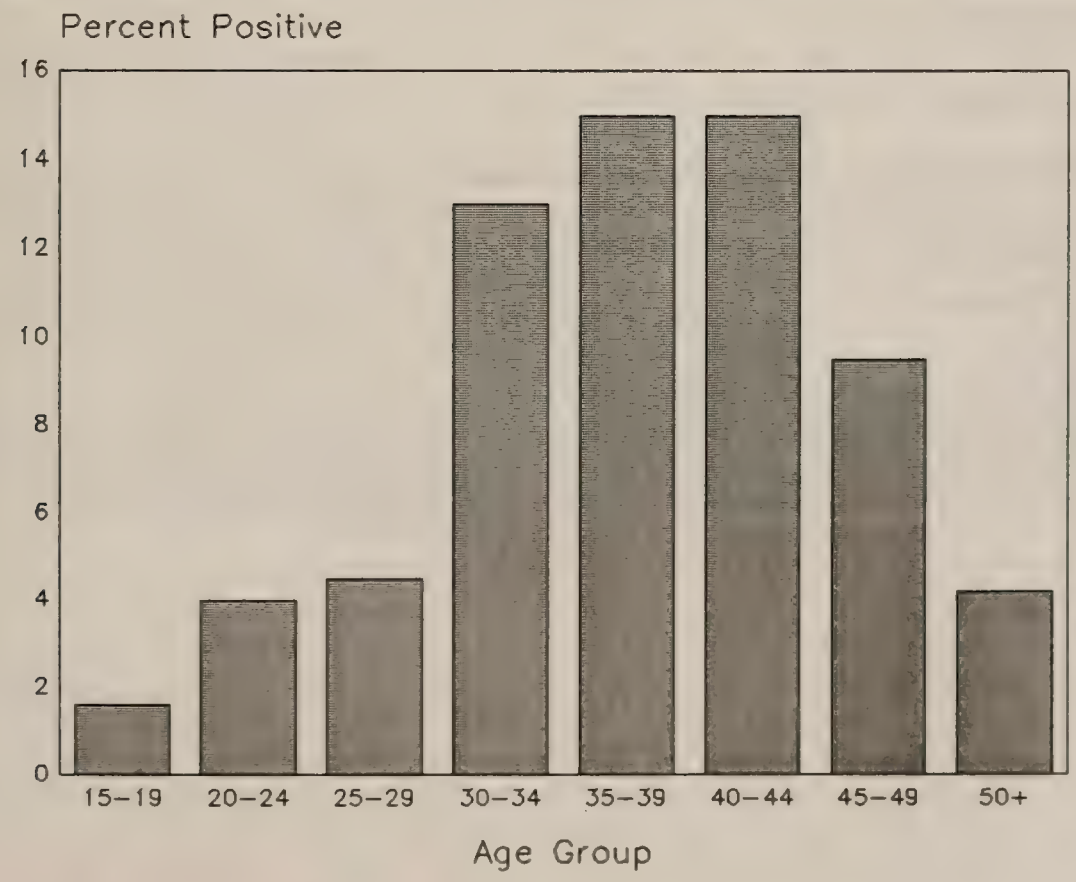

TABLE 1. Multivariate analysis of characteristics associated with anti-HCV among STD Clinic patients, San Francisco, 1990

Characteristic	Adjusted Odds Ratio (95% Confidence Interval)		P Value
FULL MODEL*			
Intravenous drug use	8.5	(3.5 - 20.7)	<0.001
Black race	3.2	(1.6 - 6.5)	0.001
Anti-HBc positive	2.8	(1.4 - 5.5)	0.003
Crack cocaine use	2.3	(1.2 - 4.5)	0.01
Blood transfusion	1.9	(0.63 - 5.8)	0.26
History of gonorrhea	1.6	(0.81 - 3.1)	0.18
Age greater than 24	1.5	(0.69 - 3.5)	0.29
Sex with intravenous drug user	1.2	(0.47 - 2.9)	0.74
History of syphilis	0.93	(0.42 - 2.1)	0.85
>1 sex partner in past 3 months	0.83	(0.45 - 1.5)	0.54
FINAL MODEL			
Intravenous drug use	7.3	(4.1. - 13.0)	<0.001
Anti-HBc positive	3.4	(2.0 - 5.9)	<0.001
Blood transfusion	2.8	(1.2 - 6.6)	0.02
Black race	2.6	(1.5 - 4.6)	<0.001
Crack cocaine use	2.2	(1.3 - 3.9)	0.006

* Information about patients with all variables was available for 68% of the total study population.

Lead Poisoning Prevention Update

In December, 1992, the Board of Supervisors approved and the Mayor signed into law the Comprehensive Environmental Lead Poisoning Prevention Program. The Department of Public Health is the primary agency responsible for implementation. The ordinance calls for three committees: a) a task force of city departments to coordinate services and assistance to carry out the ordinance; b) a citizens committee to advise on policies of lead poisoning prevention, and on implementation of the ordinance; c) a citizens committee to advise on lead hazard reduction policy options for private housing. It also has a number of notice and education provisions to inform the public about lead poisoning prevention.

The Department's ongoing case management of lead poisoned children, including home environmental inspection, is now mandated as is a surveillance system to collect data and report periodically. State law has required laboratory reporting to the State and Counties of all blood lead levels 25 ug/dl or higher since 1987, and the State Department of Health Services is revising this to include all blood lead tests as required by AB 2038, passed in October, 1991. The local ordinance duplicates this requirement.

Proper case management necessarily involves an interdisciplinary approach. Providers should report all children under age 6 with blood lead levels of 15 ug/dl or higher to the Department. This will trigger a referral to a public health nurse who will follow-up with a home visit for an assessment of the most likely sources of exposure, for education, and for prevention recommendations. If the level is 20 ug/dl or higher, then an environmental health specialist also follows-up with a home visit for environmental sampling and a recommended hazard remediation plan. These children are also medically eligible for California Children's Services coverage of further medical evaluation and treatment.

Other provisions of the ordinance include assessing hazards in publicly owned sites, developing a process to identify priority areas so as to focus resources for primary prevention, developing proposals for incentive programs to encourage hazard remediation, and developing a fund to assist in future operation of the program. Finally, an enforcement provision calls for penalties for ordinance violations.

Physician representation on the citizens committees will be important. Involvement by physicians in developing policy such as this has been minimal. Anyone interested should call the Board of Supervisors, or the Department of Health at 554-2833.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING 1/30/93

DISEASE	CASES REPORTED WEEKS 1 THROUGH 4			TOTAL CASES REPORTED TO DATE		
	1991	1992	1993	1991	1992	1993
AIDS	123	118	697	123	118	697
AMEBIASIS	21	12	18	21	12	18
CAMPYLOBACTERIOSIS	54	40	41	54	40	41
CHANCROID	1	0	0	1	0	0
CHLAMYDIAL INFECTIONS	184	162	153	184	162	153
GIARDIASIS	27	25	12	27	25	12
GONORRHEA	310	238	169	310	238	169
H. INFLUENZAE INVASIVE DISEASE	3	0	0	3	0	0
HEPATITIS Type A	17	38	20	17	38	20
HEPATITIS Type B	3	6	6	3	6	6
HEPATITIS Non A - Non B	0	0	2	0	0	2
LISTERIOSIS	2	0	0	2	0	0
LYME DISEASE	0	0	0	0	0	0
MALARIA	1	0	0	1	0	0
MEASLES	0	0	0	0	0	0
MENINGOCOCCAL INFECTIONS	2	0	0	2	0	0
PELVIC INFLAMMATORY DISEASE	22	13	9	22	13	9
PERTUSSIS	1	0	0	1	0	0
RUBELLA	0	0	0	0	0	0
SALMONELLOSIS	15	8	12	15	8	12
SHIGELLOSIS	20	18	23	20	18	23
SYPHILIS, Total	55	44	18	55	44	18
SYPHILIS, Primary & Secondary	27	9	8	27	9	8
TUBERCULOSIS	26	22	25	26	22	25
TYPHOID FEVER	0	2	0	0	2	0

TOTAL DEATHS REPORTED THIS PERIOD	801	827		801	827
Deaths from pneumonia and influenza	29	12		29	12
Medical Examiner cases	151	155		151	155
Drug-related cases	27	28		27	28
Cocaine-related cases	15	16		15	16

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Mortality Patterns, San Francisco, 1990

INTRODUCTION. A community's pattern of mortality is essential information for the health care community in particular, but also for other entities and for the public. In broad terms, mortality data can be used to monitor the general health of the population and changes in that health over time. The identification of the major causes of death and of the population groups with the greater numbers of deaths or greater risk of death is important for public health surveillance, health care services planning, and health policy decisions.

The purpose of this report is to describe the mortality of San Francisco residents. We describe this mortality by the ten leading causes overall, and then by the five leading causes according to gender, racial/ethnic, and age groupings. The focus of this report is 1990. We discuss highlights of the data and present a comparison of age-adjusted death rates for 1986-1990. Unfortunately, because the last report on deaths was for 1975, we were unable to look at long-term trends. Our plan is to report annually on mortality patterns of San Francisco residents. (Instructions for obtaining sets of the detailed mortality tables for 1989 and 1990, which are not presented here, are included at the end of this report).

METHODS. Computerized death certificate data sets were obtained from the California Department of Health Services, Data Retrieval and Analysis Section. These data included all certified deaths of San Francisco residents. Certificates of death for residents who died outside of the county and/or state were included in the analysis.

Data included age, gender, race/ethnic group, and coded cause of death. Information on racial/ethnic groups included the following categories: 1-White, 2-Hispanic, 3-Black, 4-Asian/Pacific Islander, 5-Filipino, 6-Native American, 7-Other or unknown. We merged categories 4 and 5 because they are combined in census population figures. Categories 6 and 7 were also combined and, due to very small numbers, were excluded from analyses that disaggregated by race/ethnicity.

ICD-9 codes for the underlying cause of death from the death certificate were classified into major diagnostic groupings. The grouping procedure for cause of death was identical to the system used by the State of California (1). Leading causes of death were determined by producing frequencies for the groups and then selecting those with higher numbers. There was a change in ICD coding instituted in 1987 in which separate codes of 042-044 were established for Acquired Immunodeficiency Syndrome (AIDS) and Human Immunodeficiency Virus (HIV) disease. Prior to 1987, deaths involving HIV infection were classified in six causes associated with Acquired Immune Deficiency. Due to the new classification categories, cause of death data for 1986 are not strictly comparable with 1987-1990.

Infant mortality is not reviewed in this report. Yearly mortality of children aged 1-14 years numbered 20 and were too few to meaningfully rank by leading causes. A future analysis of these age groups should aggregate death data for a 5-10 year period.

Rates for 1989 and 1990 were calculated using 1990 census figures. Age-adjusted mortality rates for 1986-1990 were calculated using intercensal population estimates for July 1 of each year. These estimates were provided by the California Department of Finance and were adjusted for the 1980 and 1990 census. For the 1990 age-adjusted rate we used the July 1 estimate, not the actual April census figure in order to compare the rate to other

years when July 1 was used. Rates are per 1,000 or 100,000 population, as indicated.

RESULTS. During 1990, 8161 San Francisco residents died. This number represents a 3.3% decrease from 8440 deaths in 1989. The crude death rate also dropped slightly from 11.6 to 11.3 per 1,000 population between 1989 and 1990.

Figure 1 presents the ten leading causes of death for residents of San Francisco. The leading cause of death was heart disease, which accounted for over a quarter of all deaths. The next leading cause was malignant neoplasms, accounting for about one-fifth of deaths. Among the 1545 deaths due to malignant neoplasms, 27% were of the trachea, bronchus, and lung group. The number of deaths due to AIDS, the third leading cause of death, increased by 5% from 1989. When all deaths due to injuries are combined (including unintentional injuries, homicide, and suicide), they accounted for almost 7% of all deaths.

Figure 2 depicts trends in five leading causes of death from 1986 to 1990. In general, the number of deaths due to each of these causes remained relatively constant over the five year period. The notable exception is AIDS, a cause of death which doubled in frequency between 1986 and 1990. In addition, the number of deaths due to heart disease and malignant neoplasms declined somewhat between 1987 and 1990.

Gender: The mortality profile differs significantly between the genders (Figure 3). There were 4803 male deaths and 3358 female deaths (59% and 41% of all deaths, respectively) among San Francisco residents in 1990. This unequal distribution with males representing more deaths than females has intensified since 1989 when 57.0% of deaths were male and 43.0% were female. This disparity is greater in San Francisco than for the state as a whole where 52.3% of all deaths were among men (1) (1989 figures, not shown). The nonspecific, unadjusted mortality rate is 30% lower for women than for men (1325.0 per 100,000 for men compared to 929.0 for women). This rate for men was unchanged from 1989, but declined by 7.5% for women .

The major causes of death differentially impact the sexes in San Francisco. Heart disease was the leading cause of death for both women and men. AIDS, the second leading cause of death among men in San Francisco, was responsible for 21.9% of male deaths and 0.7% of female deaths. Malignant neoplasms were the second leading cause for women and the third leading cause for men. The proportionate mortality due to lung cancer was equal (5%) for the sexes, and 3.9% of female deaths were due to breast cancer.

Race/Ethnicity: Figure 4 describes the ethnic distribution of mortality and population. Whites make up about two-thirds of all mortality, but less than half of the total population. Conversely, Latinos and Asian/Pacific Islanders make up a larger proportion of the population relative to mortality. This differential distribution is very strongly influenced by the age-distributions of the ethnic-groups since the White population is older and the Latino and Asian/Pacific Islander populations are younger.

A comparison was made of the five leading causes of death for Whites, Latinos, African-Americans, and Asian/Pacific Islanders in 1990. Since these groups have different total population sizes as well as different age distributions, it is not valid to compare absolute numbers or crude rates across ethnicities. However, the proportions of all deaths for an ethnic group that were due to a specific cause can be compared. Figure 5 presents a comparison of the proportional impact of different causes of death between ethnic/racial groups. Heart disease as a cause of death had the least proportional impact on Latinos. AIDS had the greatest proportional impact on Latinos and Whites, and the least on Asian/Pacific-Islanders. Unintentional injuries accounted for a greater proportion of Latino and African-American deaths compared with Whites and Asian/Pacific-Islanders. Even though injury was a more frequent cause of death for Latinos than for African-Americans, their rate of injury deaths were approximately half that of African-Americans.

There are more similarities in cause of death profiles for females in the different ethnic/racial groups than for males. Specifically, the first three causes of death for women of each ethnic/racial group were the same. These were, in order, heart disease, malignant neoplasms, and cerebrovascular disease. In contrast, the major causes of death for men were different in each ethnic or racial group. AIDS was the leading cause of death for White and Latino men, while heart disease was the leading cause for African-American men and malignant neoplasms for Asian/Pacific-Islander men. Over 10% of all Latino male deaths were due to unintentional injuries, which was a greater proportion than for men or women of any other ethnicity. Homicide was the

fifth leading cause of death for both Latino and African-American men, accounting for approximately 6% of the deaths for each group.

Age: Seventy-three children under the age of one year died during 1990, down from 97 in 1989. Twenty children between the ages of 1-14 died in 1990. The number of deaths then increased with age. Almost three quarters of deaths to 15-24 year olds and 28% of deaths to 25-34 year olds were due to external causes (unintentional injuries, homicide, and suicide). AIDS was the leading cause of death for ages 25 to 54. Over 60% of all deaths occurred among persons aged 65 and older. The leading cause of death for this group was heart disease.

Figure 6 displays the number of deaths by age for men and women. For females, the number of deaths increased very slowly with age and rapidly after age 55. For males, the number of deaths increased dramatically after age 15, peaking with the age group 35-44, then dropping and rising again with age. The number of female deaths overtook the number of male deaths after the age of 74. Although the total number of males who died between the ages of 15 and 34 was much greater than the number of females who died in this age group, their cause of death profile was similar. Unintentional injuries, homicide, and suicide were responsible for the majority of deaths to these young adult males. For middle age adults (35-54 years), AIDS was the leading cause of death for men and malignant neoplasms was the leading cause for women. As age increased, the causes of death for men and women became more similar. For persons aged 75 and older, the top five causes of death were identical for females and males. Figure 6A clearly shows that the mortality rate for males is higher than for females for all age groups. Table 1 presents the number of deaths for each age group, by race/ethnicity and sex.

In comparing age-specific and age-adjusted mortality rates for 1986-90 there appears to be a trend of increasing mortality only for 35-44 year olds over the five year period (Table 2). The 1990 age-adjusted rate for San Francisco was 8.36 per 1,000 population. This figure represents a small drop from 8.71 in 1989. The age-adjusted rate for all of California was lower than for San Francisco. That rate was 7.0 per 1,000 population for 1989 and 1990.

EDITORIAL NOTE. Although the relative importance of the leading causes of death vary by gender, race, and age, it is clear that the most important causes of death in San Francisco residents are heart disease, neoplasms, AIDS/HIV, injuries, and cerebrovascular disease. Heart disease and neoplasms, the first and second leading causes of death overall, were responsible for nearly half of all deaths. This is similar to the mortality profile for the state and the nation. This may reflect our country's increasingly older population and the high prevalence of tobacco smoking among this group.

The relative importance of AIDS/HIV deaths is much greater in San Francisco (third leading cause) than in the state or the nation (7th and 11th leading causes, respectively, in 1989). The high number and importance of AIDS/HIV deaths, especially in young and middle aged males, helps explain the high age-specific mortality rates for those age groups and contributes to the elevation of age-adjusted rates as compared with the state. In addition to AIDS/HIV, injuries, both unintentional and intentional, strongly influenced the unequal distributions of mortality by gender, for young adults, and for Latinos and African-Americans.

It is important to note that all the leading causes of death have a great potential for prevention. Policy changes such as tobacco control ordinances and gun control as well as behavior change interventions such as smoking cessation and conflict resolution programs are capable of reducing the over 8,000 annual deaths of San Francisco residents.

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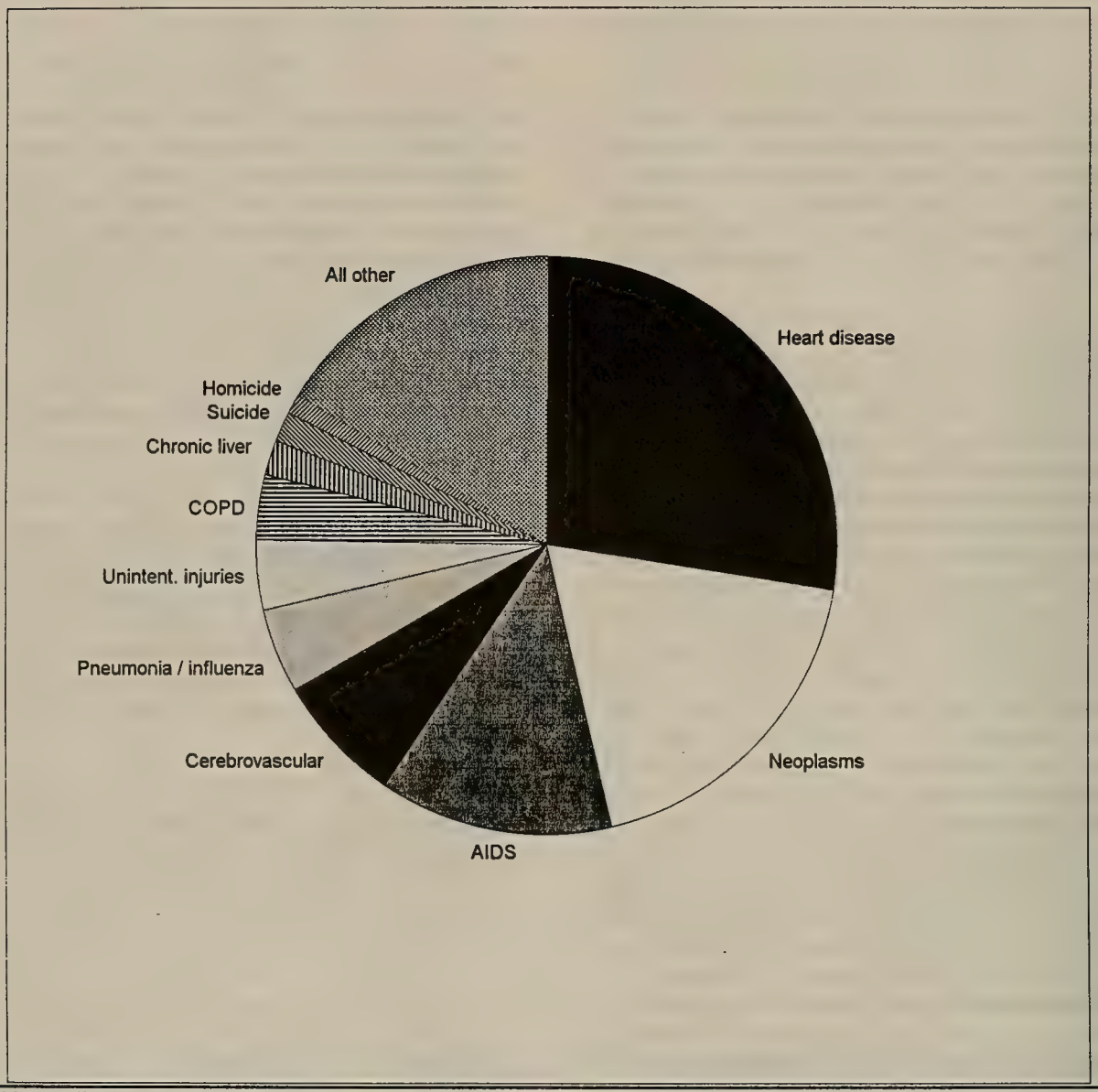
1. Department of Health Services, State of California. Vital Statistics of California, 1989. November 1991.

To obtain copies of the 1989 and/or 1990 mortality tables for San Francisco please send a written request specifying which year(s) you desire and a self-addressed mailing label to: Editor, Epidemiologic Bulletin, Bureau of Epidemiology and Disease Control, 101 Grove Street, Rm. 402, San Francisco CA. 94102. We are unable to handle phone requests due to staff shortages.

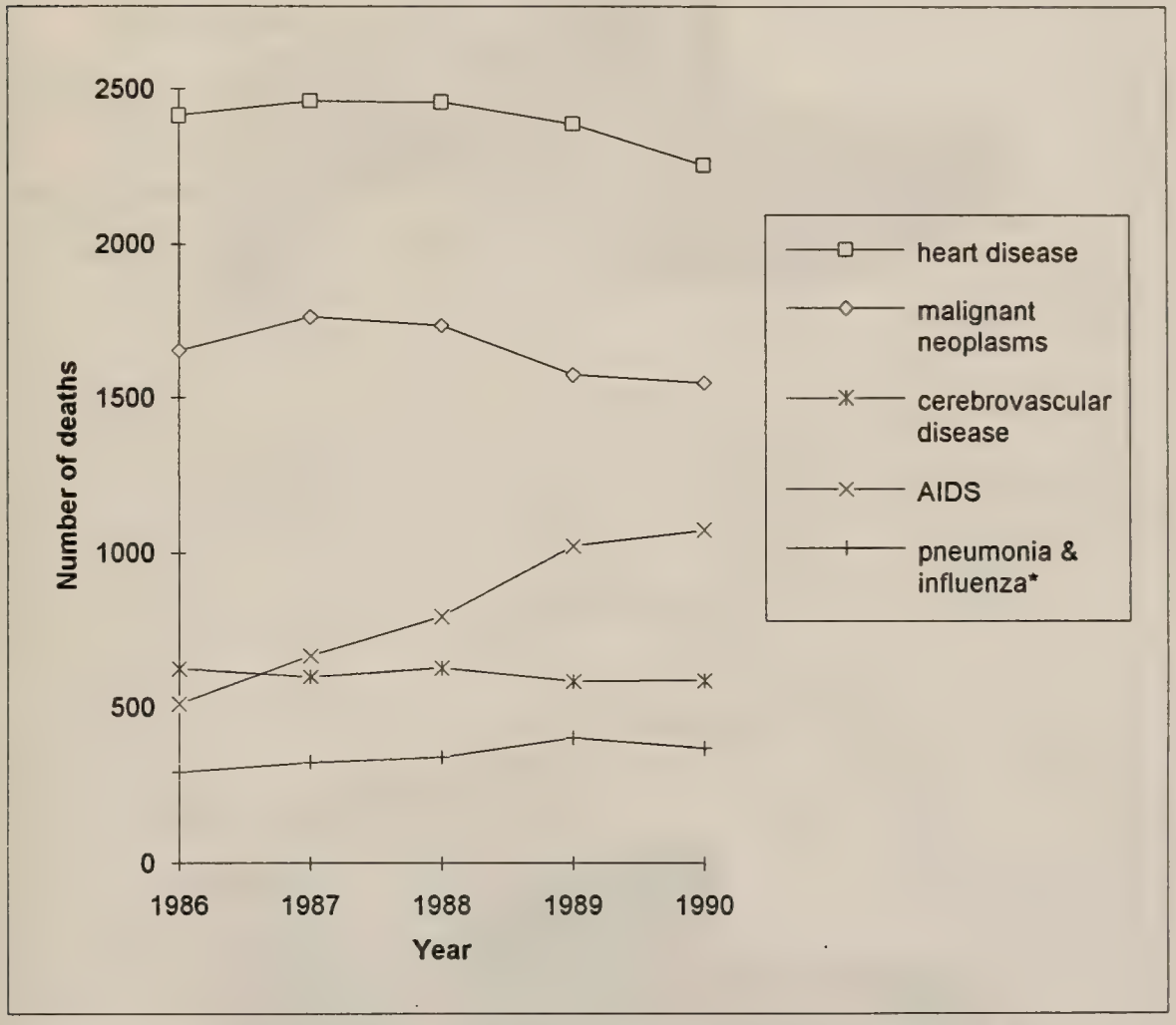
Figure 1. Ten Leading Causes of Death- San Francisco, 1990



Heart disease- 27.6%	Unintentional injuries- 4.1%
Neoplasms- 18.9%	COPD*- 3.4%
AIDS- 13.1%	Chronic liver- 2.2%
Cerebrovascular- 7.2%	Suicide- 1.4%
Pneumonia/ influenza- 4.5%	Homicide- 1.2%

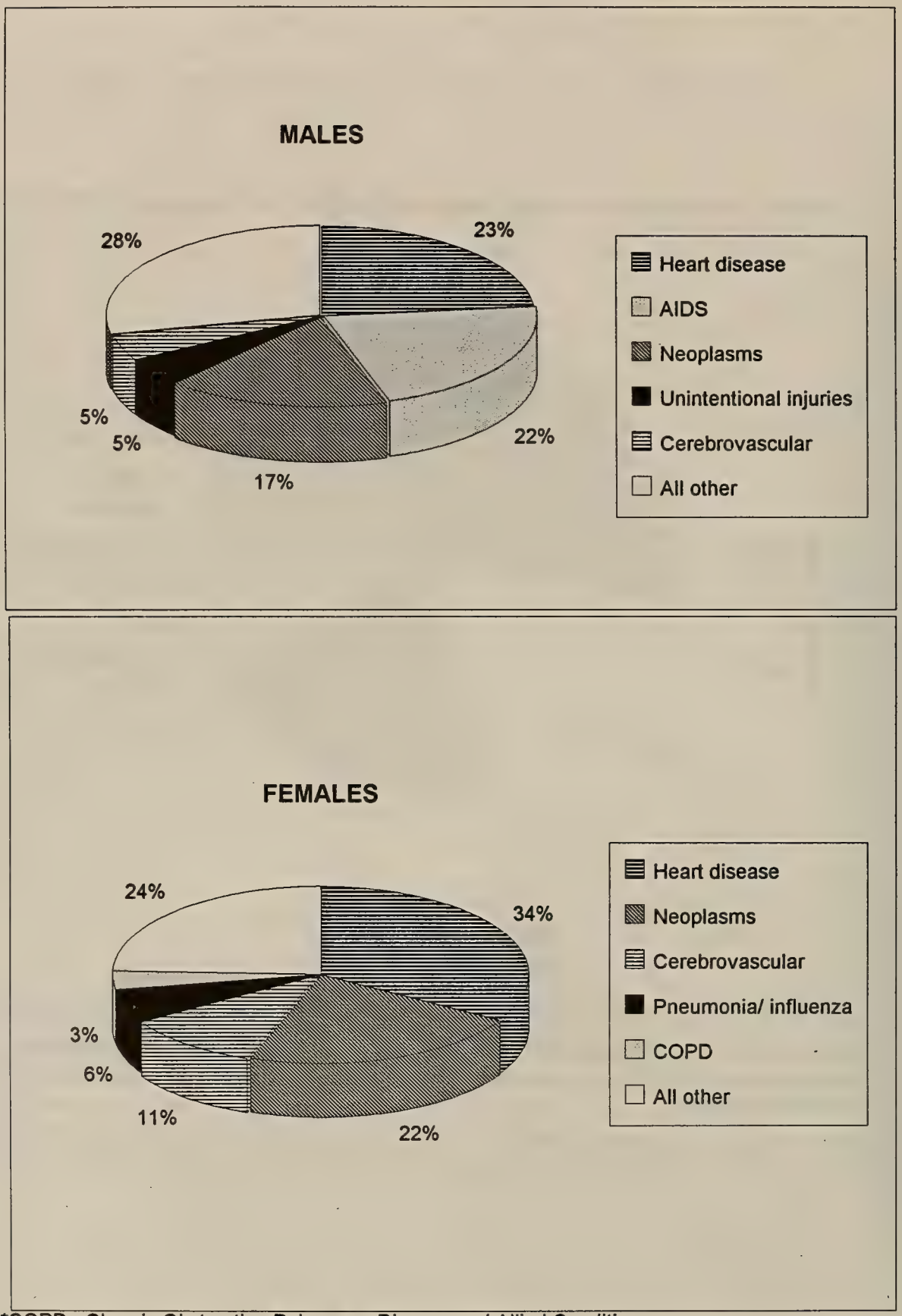
*COPD= Chronic Obstructive Pulmonary Disease and Allied Conditions

Figure 2. Trends in 5 Leading Causes of Death- San Francisco, 1986-1990



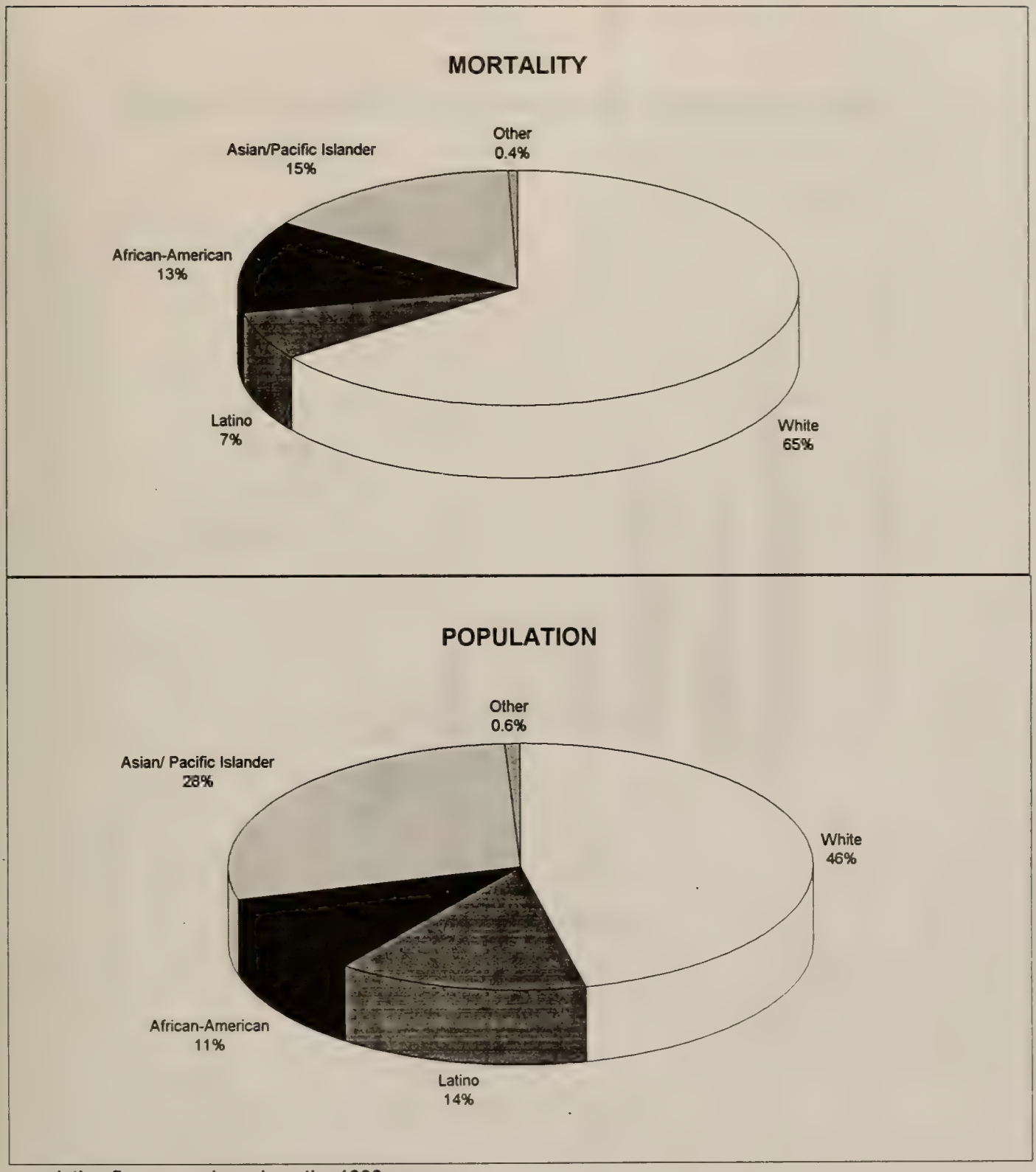
*pneumonia and influenza were not the 5th leading cause of death for 1986 and 1987, unintentional injuries was 5th for 1986 and chronic obstructive pulmonary disease was 5th for 1987 (not shown)

Figure 3. Five Leading Causes of Death by Gender- San Francisco, 1990



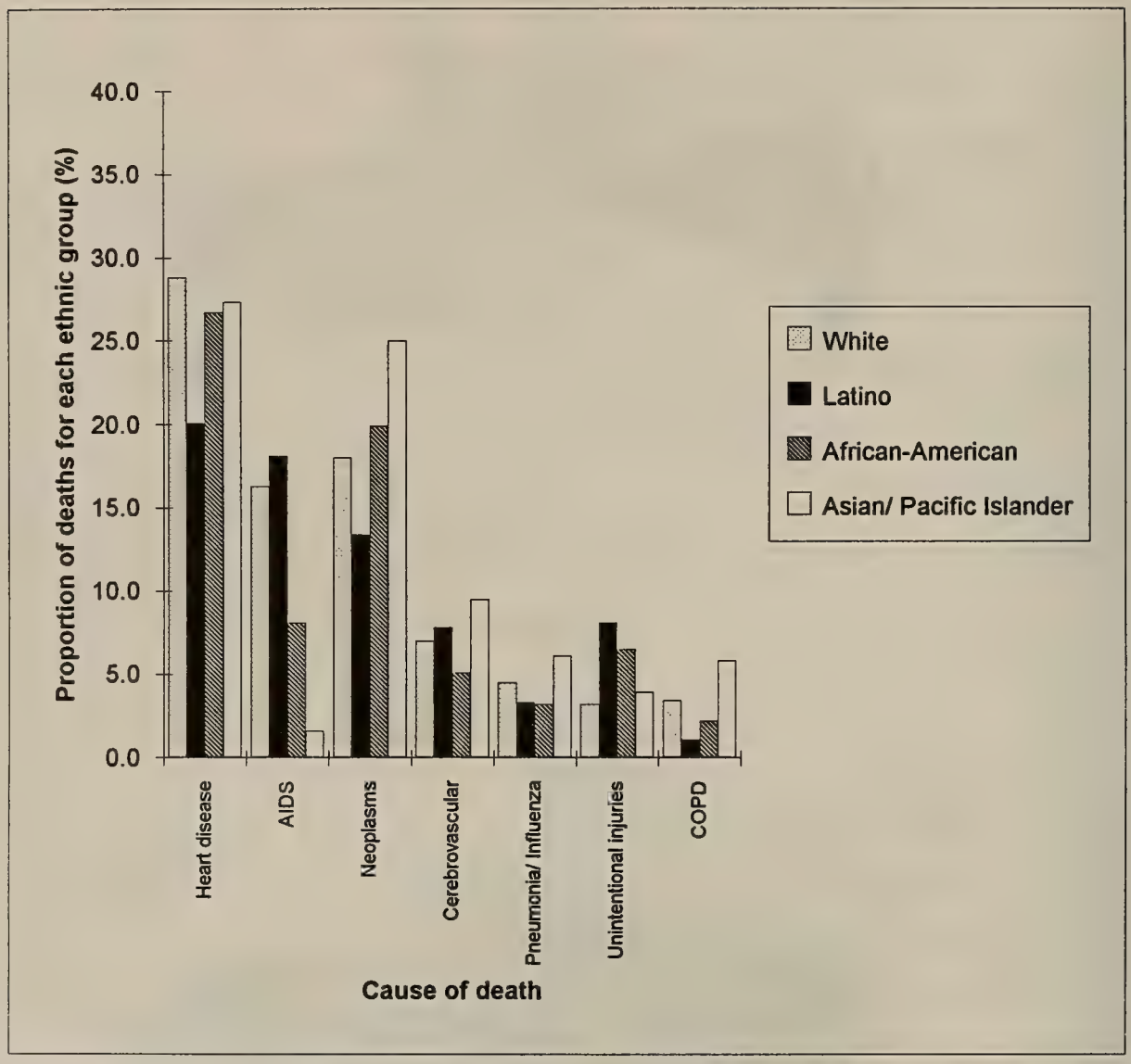
*COPD= Chronic Obstructive Pulmonary Disease and Allied Conditions

Figure 4. Mortality and Population by Race- San Francisco, 1990



population figures are based on the 1990 census

Figure 5. Proportions of Selected Causes of Death for Ethnic Groups



*COPD= Chronic Obstructive Pulmonary Disease

Figure 6. Number of Deaths by Age and Sex- San Francisco, 1990

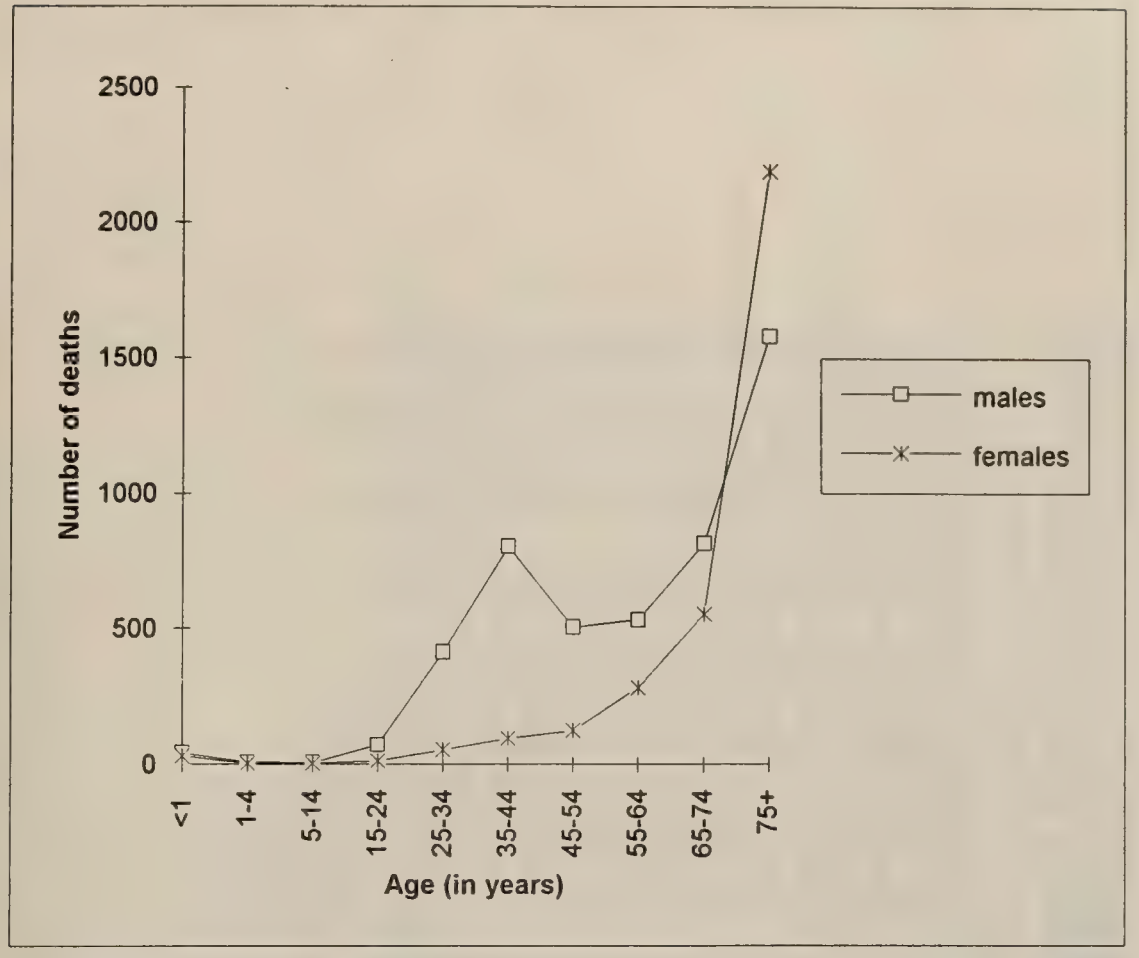
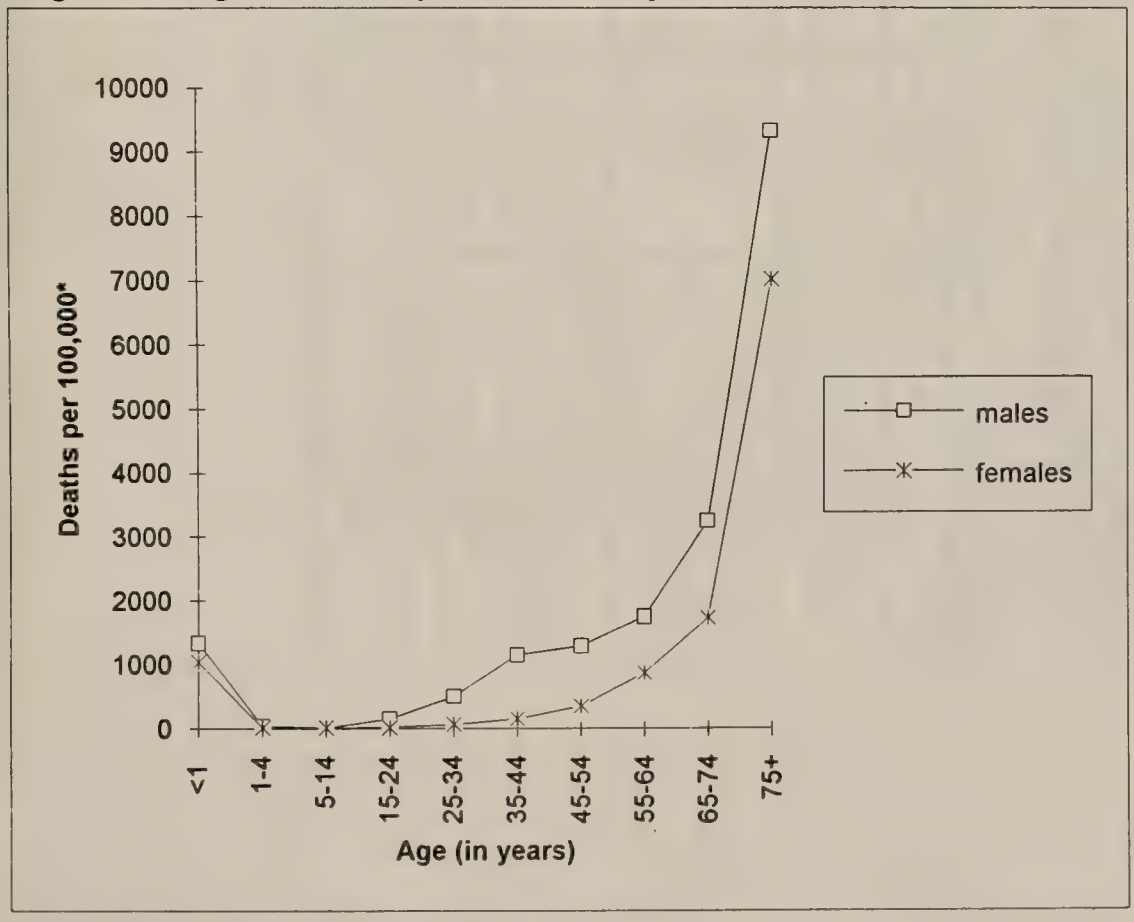


Figure 6A. Age and Sex-Specific Mortality Rates- San Francisco, 1990



*population based on 1990 census figures

Table 1. 1990 Mortality
Deaths by Sex, Race, and Age, San Francisco (By Place of Residence)

		AGE IN YEARS										
SEX	AND RACE	ALL AGES	<1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75+
TOTAL		8135	73	10	10	86	468	899	629	819	1369	3772
	WHITE	5294	20	1	3	19	276	651	431	457	786	2650
	LATINO	551	12	1	0	27	68	82	48	50	63	200
	AFRICAN- AMERICAN	1042	24	6	1	23	87	121	85	157	239	299
	ASIAN/PACIFIC ISLANDER	1213	13	2	6	17	30	40	62	152	278	613
	OTHER	35	4	0	0	0	7	5	3	3	3	10
MALE	TOTAL	4784	42	7	6	73	415	803	505	535	815	1583
	WHITE	3073	11	1	2	18	249	611	360	320	451	1050
	LATINO	362	9	1	0	27	61	72	41	29	37	85
	AFRICAN- AMERICAN	629	13	4	1	16	73	89	57	94	138	144
	ASIAN/PACIFIC ISLANDER	697	8	1	3	12	26	28	44	91	186	298
	OTHER	23	1	0	0	0	6	3	3	1	3	6
FEMALE	TOTAL	3351	31	3	4	13	53	96	124	284	554	2189
	WHITE	2221	9	0	1	1	27	40	71	137	335	1600
	LATINO	189	3	0	0	0	7	10	7	21	26	115
	AFRICAN- AMERICAN	413	11	2	0	7	14	32	28	63	101	155
	ASIAN/PACIFIC ISLANDER	516	5	1	3	5	4	12	18	61	92	315
	OTHER	12	3	0	0	0	1	2	0	2	0	4

N.B: Age was unknown for 26 people, 19 male and 7 female, and are not included here.

Table 2. Mortality
Death Rates by Age and Age-adjusted Death Rates, San Francisco, 1986-1990
(By Place of Residence)

Year	Crude Death Rate *	Age (in years)									Age-Adjusted Rate**	Age-Adjusted Rate for California***
		0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75+		
1990	11.3	2.24	0.16	0.89	2.95	7.00	8.50	12.9	24.1	77.9	8.36	7.0
1989	11.6	2.71	0.16	0.79	2.89	7.18	9.19	13.4	25.6	80.7	8.71	7.0
1988	11.6	2.22	0.30	0.77	2.81	6.86	8.70	13.4	27.2	78.3	8.59	7.1
1987	11.2	2.26	0.25	0.99	2.76	5.89	7.72	13.7	27.6	74.8	8.31	7.2
1986	10.9	2.26	0.15	0.84	2.91	5.66	8.15	13.6	26.0	71.1	8.06	7.2

* Figures for age unknown are included in the crude death rate but are not distributed among age groups. Crude rates and age-specific rates were calculated using population estimates for July 1 of each year. These population estimates, which had been adjusted to the 1980 and 1990 census figures, were provided by the California Department of Finance.

**The age-adjusted rates are computed by the direct method, using the distribution of the enumerated population of California in 1980 as the standard population.

*** These rates are from "Vital Statistics of California- 1989", Department of Health Services, State of California The 1990 age-adjusted mortality rate for California is considered preliminary.

Note: Rates are per 1,000 population.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

4 WEEK PERIOD ENDING 2/27/93

DISEASE	CASES REPORTED WEEKS 5 THROUGH 8			TOTAL CASES REPORTED TO DATE		
	1991	1992	1993	1991	1992	1993
AIDS	187	147	641	310	265	1338
AMEBIASIS	24	25	17	45	37	35
CAMPYLOBACTERIOSIS	37	55	60	91	95	101
CHANCROID	1	0	0	2	0	0
CHLAMYDIAL INFECTIONS	256	164	58	440	326	211
GIARDIASIS	19	23	16	46	48	28
GONORRHEA	275	247	117	585	485	286
H. INFLUENZAE INVASIVE DISEASE	0	0	3	3	0	3
HEPATITIS Type A	23	40	16	40	78	36
HEPATITIS Type B	2	15	5	5	21	11
HEPATITIS Non A - Non B	0	0	0	0	0	2
LISTERIOSIS	1	1	0	3	1	0
LYME DISEASE	0	0	1	0	0	1
MALARIA	0	0	1	1	0	1
MEASLES	1	1	0	1	1	0
MENINGOCOCCAL INFECTIONS	0	2	0	2	2	0
PELVIC INFLAMMATORY DISEASE	22	12	12	44	25	21
PERTUSSIS	1	1	0	2	1	0
RUBELLA	0	0	0	0	0	0
SALMONELLOSIS	15	11	12	30	19	24
SHIGELLOSIS	20	28	11	40	46	34
SYPHILIS, Total	56	46	7	111	90	25
SYPHILIS, Primary & Secondary	22	7	4	49	16	12
TUBERCULOSIS	27	29	32	53	51	57
TYPHOID FEVER	1	0	0	1	2	0

TOTAL DEATHS REPORTED THIS PERIOD	720	740	1521	1567
Deaths from pneumonia and influenza	18	19	47	31
Medical Examiner cases	122	120	273	275
Drug-related cases	18	25	45	53
Cocaine-related cases	10	12	25	28

CITY AND COUNTY OF SAN FRANCISCO
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BUREAU OF EPIDEMIOLOGY AND DISEASE CONTROL

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Vol. 9, No. 4, April 1993

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

25 HIV Risk Among Women Who Have Sex with Women

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HIV Risk Among Women Who Have Sex with Women

Introduction: At the present time, there is very little data on HIV (Human Immunodeficiency Virus) infection or risk among lesbians. Virtually none of the current research on HIV risk behavior includes questions about lesbian sexual identity or women sex partners and HIV risk behavior within such relationships. While the risk of woman-to-woman transmission of HIV appears to be lower than transmission via heterosexual or male-to-male transmission (1), the nature of infection risk for women who have sex with women is more complex than the question at first suggests.

Women who have sex with women have a variety of sexual identities, personal characteristics, and behaviors that may put them at risk of HIV infection. The terms "lesbian" and "bisexual" are most commonly used to describe these women, but their choices of partners and sexual behaviors may not be congruent with the terms that describe their sexual identity. There are self-identified lesbians who have sex with men and even sell sex to them, just as there are women who identify themselves as heterosexual but have female sexual partners. Women who have sex with women may have few or many partners; they may be mothers, drug users, professionals, streetwalkers, homeless or in jail (2). Despite this diversity, current HIV statistics and prevention messages can lead them to believe that they are at little or no risk for HIV infection (1).

This report will present findings on women who have sex with women from one Bay Area study of women at risk for HIV infection due to sexual behavior or drug use (3).

Methods: Project AWARE (The Association for Women's AIDS Research and Education) has been studying sexual and drug use behavior among women in the Bay Area to ascertain and analyze risk for HIV infection. From October 1988 through 1991, 711 women completed HIV antibody testing and were interviewed about their health, drug use, sexual behavior and identity, and knowledge about the transmission and prevention of AIDS (Acquired Immunodeficiency Syndrome) and other STDs (sexually transmitted diseases). This report describes these women at their entry to the study.

To be eligible for inclusion in the AWARE study a woman must report having a male sex partner in the three years prior to the study entry who is one of the following: a) HIV infected; b) gay or bisexual; c) an injection drug user (IDU); d) comes from a Pattern Two country (high incidence of heterosexually transmitted HIV infection). Women can also participate in the study if they have had ten or more sexual partners (male or female) during that same three-year period. Recruitment is primarily accomplished by outreach into areas with high rates of poverty, crime, and drug use. Outreach methods include selection and hiring of peer counselors and the development of ongoing personal contacts on the street. The remainder of the women entering into the study are self-referred.

Demographic Characteristics: Among AWARE participants, the majority were Black (69%) and their average age was 32 years (Table 1). Virtually all of them (99%) said they had used

drugs including alcohol; 32% had smoked crack cocaine and 41% had injected drugs. When asked to describe themselves on a 7-point scale from "exclusively heterosexual" to "exclusively homosexual," 21% said they preferred some combination of partners of both genders, and 3% described themselves as exclusively homosexual. However, self-described sexual identity only partially overlapped with sexual behavior; 329 women (41%) reported at least one female sexual partner during the last three years. Additionally, sexual partners who were women were themselves often associated with HIV transmission risk- the majority of these partners were described by study participants as drug-using and/or bisexual women (Table 2).

Risk Behavior & HIV Infection: Table 3 shows HIV-related risk behavior and infection rates among the women in the study. Two-thirds of the women who identified themselves as lesbian or bisexual had injected drugs at some time since 1980. Self-reported IDU was even higher among women who had at least one female partner; 76% reported injection drug use, compared to 42% among women with no female partners. However, among those who did inject drugs, there was only a 1% difference in rates of sharing of injection equipment among these groups. Women who had at least one female sexual partner and self identified lesbians/bisexuals were also more likely to report anal sex with a male partner than women who had no female partners (33%; 32% vs. 16%).

Differences in HIV infection rates emphasize the importance of the differences between sexual identity and sexual behavior. Women who identified as lesbian or bisexual were more likely to be infected with HIV (14%) than women who did not so identify. Women whose behavior included at least one female sexual partner had an HIV infection rate that was similar to women who did not have sex with women (10% vs. 11%).

Editorial Comment: The AWARE study provides limited evidence on HIV risk behavior and HIV infection that suggests substantial HIV infection risk for both self-identified lesbian/bisexual women and women who have sex with women in a community-recruited cohort. Additional evidence supporting this conclusion comes from other research. One report is from the National AIDS Demonstration Research Project (NADR) data on HIV risk among IDUs and their sexual partners (4). Analyzing NADR data on female IDUs from 14 cities, Friedman et al found that women who reported any female partners were more likely to seroconvert to a positive HIV antibody status during follow-up than women who did not; they were also more likely to share syringes with more people; to rent used syringes; and to have sex for drugs or money. Another study of female sexual behavior in 1987 reported that 46% of self-identified lesbians reported sex with men since 1980, and one-third of these women knew that at least one male sexual partner also had sex with men (5).

Although neither the AWARE nor the NADR research programs were looking for lesbian/bisexual women, more than ten percent of the women reached by these studies reported at least one female partner. Nonetheless, current HIV research and education programs have not adequately assessed female to female sexual transmission nor have they addressed the complexity of lesbian/bisexual behaviors and identities as related to HIV risk behaviors (6).

The current Centers for Disease Control and Prevention (CDC) system for establishing transmission routes for HIV infected women relies on categories that do not effectively sort out the various potential risk behaviors: sex with women, sex with men, the use of injection drugs. The CDC defines a lesbian as a woman who has sex with women and "who has not had sex with a man since 1977" (1). This excludes the majority of women who have sex with women and or define themselves as lesbians. If a woman with HIV infection has any other identifiable risk, her classification is in that other category (e.g. IDU; blood transfusion). If she fits none of these categories she is classified under "no identified risk." Instead of directly assessing female to female transmission, a process of elimination has

determined that there is "no evidence" for woman to woman transmission.

Unfortunately "no evidence" is then interpreted as no risk. This blurring of behavior and identity results in the following: lesbians regardless of behaviors that might put them at high risk of HIV infection perceive themselves as being at no risk; planners and administrators of HIV prevention and drug treatment programs ignore the spectrum of lesbian risk issues; and clinicians fail to look for risk behaviors or HIV infection symptoms among women who have sex with women and or women who identify themselves as lesbian.

The issues raised here demonstrate the problems associated with using broad categories of identification rather than focusing on particular behaviors to identify risk for HIV infection. Until we can speak clearly about specific behaviors with all population groups our public health efforts to reduce HIV infection as well as other sexually transmitted diseases will continue to be compromised.

Efforts are currently underway in San Francisco to address the lack of information about risk behavior and the lack of prevention efforts in the lesbian community. The San Francisco Department of Public Health AIDS Office is conducting a survey on the prevalence of HIV infection and other sexually transmitted diseases, and behavioral risk factors for HIV infection among lesbians and bisexual women. The AIDS Office has recently completed a community-based sample of HIV/AIDS knowledge, attitudes and risk behavior among the same population. The AmFAR funded HIV Prevention Program at Lyon-Martin Women's Health Services, has begun an innovative peer education program offering individual counseling and group presentations on risk behaviors for HIV infection at women's dance clubs and sex clubs for women who have sex with women.

Reported by: Judith B. Cohen, Ph.D., and the Staff of Project AWARE.

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Table 1. Characteristics of AWARE women, 1988-1991

	Number	Percent
Total women providing information on sexual identity and behavior	711	100
Race or Ethnicity		
Black	491	69
White	149	21
Latina	43	6
Other	28	4
Age Group		
Less than 25	121	17
25-34	398	56
35 and older	192	27
Drug Use		
IDU	331	41
Crack cocaine	228	32
Other drugs &/or alcohol	412	58
None	5	1
Self-description as*:		
Heterosexual	544	76
Bisexual	145	21
Lesbian	22	3
At least 1 female sex partner since 1980*	329	41

*These descriptions are not mutually exclusive. Many but not all women who have female sexual partners describe themselves as lesbian or bisexual.

Table 2. Characteristics of female partners of AWARE women, 1988-1991

During the last 3 years, among women with at least 1 female partner:	**Mean Number of Partners**	**Standard Deviation**
Total female partners	3.9	±49.2
Bisexual female partners	3.1	±20.3
IDU female partners	2.0	±14.9
Casual (anonymous) partners	1.3	± 9.2

TABLE 3. Risk behavior and HIV infection among AWARE women, 1988-1991

Percent who had:	**Self-Identified lesbians/bisexuals**	**Women with at least one female partner**	**Women with no female female partners**
Any injection drug use since 1980	66	76	42
Among IDUs, % who share needles	92	91	93
Any anal sex with male partner(s)	32	33	16
HIV infection	14	10	11

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

5 WEEK PERIOD ENDING 04-03-93

DISEASE	CASES REPORTED WEEKS 9 THROUGH 13			TOTAL CASES REPORTED TO DATE		
	1991	1992	1993	1991	1992	1993
AIDS	220	232	592	530	497	1930
AMEBIASIS	39	19	19	84	56	54
CAMPYLOBACTERIOSIS	78	68	45	169	163	146
CHANCROID	0	0	0	2	0	0
CHLAMYDIAL INFECTIONS	295	275	327	735	601	538
GIARDIASIS	26	21	35	72	69	63
GONORRHEA	314	296	243	899	781	529
H. INFLUENZAE INVASIVE DISEASE	1	0	5	4	0	8
HEPATITIS Type A	24	53	19	64	131	55
HEPATITIS Type B	15	8	5	20	29	16
HEPATITIS Non A - Non B	1	0	0	1	0	2
LISTERIOSIS	4	1	2	7	2	2
LYME DISEASE	0	0	0	0	0	1
MALARIA	0	1	3	1	1	4
MEASLES	0	0	1	1	1	1
MENINGOCOCCAL INFECTIONS	2	1	0	4	3	0
PELVIC INFLAMMATORY DISEASE	23	15	15	67	40	36
PERTUSSIS	0	0	0	2	1	0
RUBELLA	0	1	0	0	1	0
SALMONELLOSIS	30	12	25	60	31	49
SHIGELLOSIS	37	22	17	77	68	51
SYPHILIS, Total	85	48	17	196	138	42
SYPHILIS, Primary & Secondary	23	12	9	72	28	21
TUBERCULOSIS	25	40	38	78	91	95
TYPHOID FEVER	1	0	0	2	2	0
TOTAL DEATHS REPORTED THIS PERIOD	839	829		2360	2396	
Deaths from pneumonia and influenza	33	16		80	47	
Medical Examiner cases	137	161		410	436	
Drug-related cases	37	35		82	88	
Cocaine-related cases	19	11		44	39	

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Vol. 9, Nos. 5/6 May/June 1993

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Department of Public Health
Bureau of Epidemiology and Disease Control

Vol. 9, Nos. 7/8 July/August 1993

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

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As of this issue the Epidemiologic Bulletin will be published bi-monthly.
This change has been instituted in response to budget cuts within the Department of Public Health.
Vol. 9, Nos. 5 and 6, May and June 1993 were not published.

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Tuberculosis in San Francisco, 1992

In 1992, 355 new cases of active tuberculosis (TB) were reported to the San Francisco Department of Public Health. This represents an increase of 22 cases over the previous year and the largest annual number of cases since 1981 (figure 1) (1). While recent increases in TB in San Francisco have been smaller than those in other major cities, particularly cities on the East Coast, San Francisco continues to have the fifth highest rate of tuberculosis of any major metropolitan area in the United States.

Age. While those older than 44 have had the highest rates of tuberculosis in San Francisco, these rates have remained stable (figure 2). Rates among those age 24 or younger have decreased. On the other hand, increases have occurred in the 25-44 year age group.

Foreign-born. Although the majority (57%) of TB cases in San Francisco in 1992 were among persons who were foreign-born, the percentage of such cases has been decreasing from a high of 81% in 1980 (figure 3). This is in contrast to the situation nationally where the proportion of foreign-born cases has been increasing. In 1991, 27% of all cases of tuberculosis nationally were among persons who were foreign-born.

Race/ethnicity. Case rates of tuberculosis have been highest among Asians, but these rates have been decreasing since 1984 (figure 4). Rates among African Americans have increased since 1984 while no consistent trends have been observed among Hispanics or whites. Case rates among African Americans now approximately equal those among Asian Americans. This increase has occurred most notably among African American men in the 25-44 year age group where TB case rates have increased from 71 cases/100,000 population in 1984 to 173/100,000 population in 1992.

TB/HIV. Since 1989, 258 persons with AIDS have also been diagnosed with TB. This represents 4% of patients diagnosed with AIDS in 1989-1992 and this was 20% of the total number of tuberculosis cases in San Francisco during that period of time.

Drug resistance. In 1992, resistance to both isoniazid (INH) and rifampin was seen among 6 patients or 1.7% of all cases of active tuberculosis (table). Four of these patients were U.S. born. Over the last 11 years, multi-drug resistant TB (minimally a resistance to both INH and rifampin) as a percent of the total number of cases of TB in San Francisco has ranged from 0.3% in 1990 to 1.8% in 1986.

Of the 20 patients resistant to INH but not rifampin, 9 were also resistant to Streptomycin; 1

was also resistant to Pyrazinamide, and 1 was also resistant to Ethambutol.

Editorial Note: Conditions which favor the increased transmission of tuberculosis persist in San Francisco: the presence of large numbers of immunocompromised persons; homelessness and crowding in shelters; an increasing and overcrowded jail population; and high rates of immigration from countries where TB is endemic. While recent increases in TB have been relatively modest, conditions exist for a much larger problem.

Among some groups, we have already observed a significantly worsening problem. TB rates among young African American men, for example, have more than doubled over the past eight years.

Resistance to both INH and rifampin predicts a poorer outcome of therapy. Multi-drug resistant TB of the magnitude seen on the East Coast is not yet a major concern in San Francisco. However, the same conditions that favor the increase in tuberculosis as a whole can contribute to the development of multi-drug resistant TB. Significantly, more persons in San Francisco with multi-drug resistant TB are now U.S. born.

The prevention of increased rates of tuberculosis and multi-drug resistant TB will require ongoing and intensive public health efforts to ensure that patients with TB are found early in their disease course and that treatment is both adequate and taken to completion. This will require increasing outreach into those communities at greatest risk. As the number of TB cases grows, it will also require more resources for case finding, diagnosis, treatment, and ensuring patient compliance with treatment.

For information about the diagnosis and treatment of tuberculosis and tuberculosis infection, contact the TB Control Division of the San Francisco Department of Public Health, San Francisco General Hospital, Ward 94, 1001 Potrero Avenue, San Francisco (telephone: 206-8524).

References

1. San Francisco Department of Public Health. Tuberculosis in San Francisco, 1991. San Francisco Epidemiologic Bulletin 1992;8(5/6): 17-20.

Table 1. Cases of INH and Rifampin Resistant Tuberculosis, 1992

	INH/Rifampin Resistance	INH Resistance	Rifampin Resistance
(n=355)	6 cases	20 cases	3 cases
% Total Cases	1.7%	5.7%	0.8%

Figure 1. Reported cases of tuberculosis and tuberculosis with AIDS, San Francisco, 1980-92

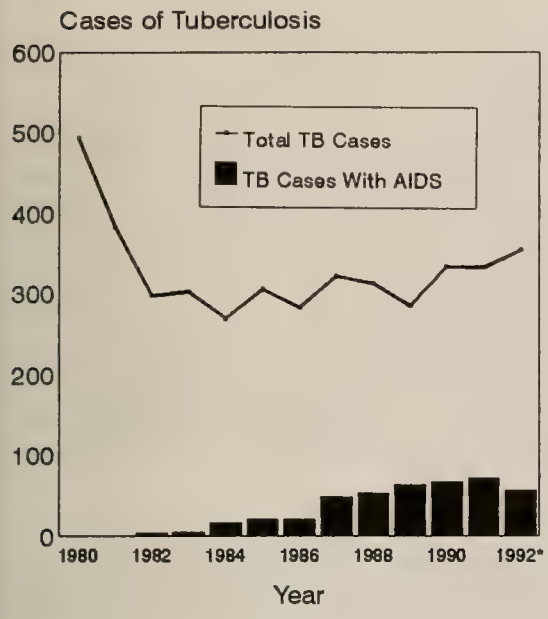
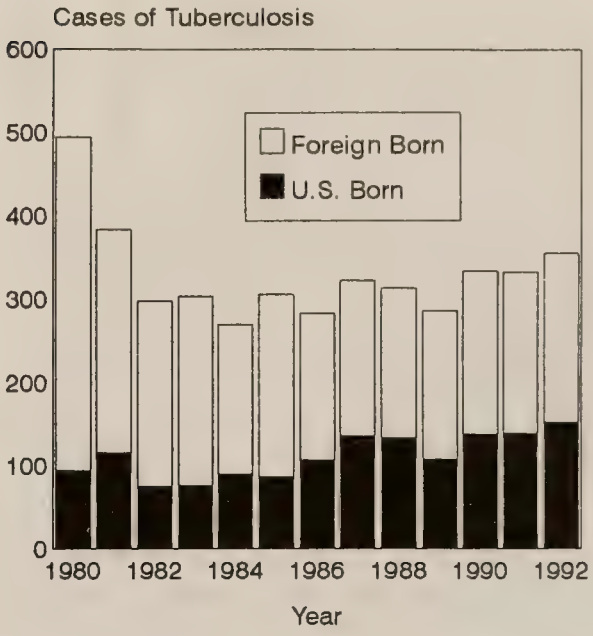


Figure 3. Foreign and U.S. born cases of tuberculosis, San Francisco, 1980-92



* Note: Numbers of persons with TB and AIDS may increase as AIDS defining conditions are identified.

Figure 2. Rates of tuberculosis by age group, San Francisco, 1984-92

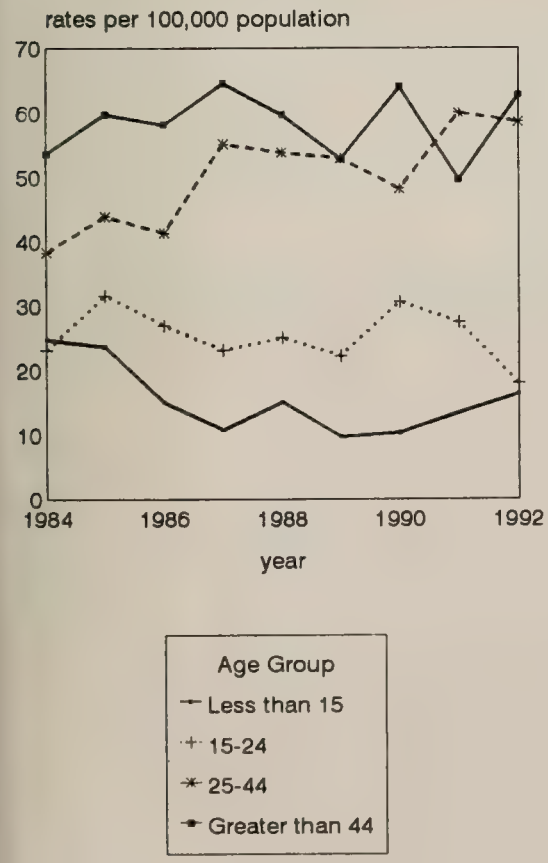
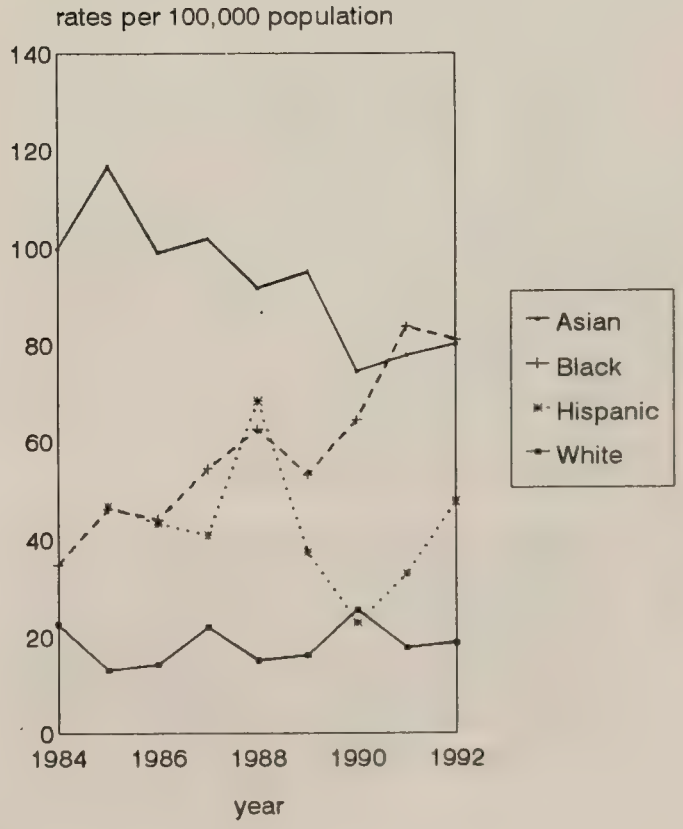


Figure 4. Rates of tuberculosis by race and ethnicity, San Francisco, 1984-92



A Report on Interventions to Reduce Tuberculosis Among Homeless Persons, San Francisco, 1993

Introduction. Homeless persons are at increased risk of tuberculosis (TB) due to: increased potential of transmission in crowded and poorly ventilated shelters; high rates of HIV infection and disease; high rates of substance abuse (including alcoholism); and late detection of active TB disease in the milieu (1). San Francisco has had a steady increase in the number of homeless persons with TB as well as an increase in the estimated rate of TB among the homeless until 1992 (Table).

In 1992 the TB Control Division reported that there were 40 cases of TB among the homeless in San Francisco compared to 41 cases reported in 1991. It is estimated that the number of homeless persons in San Francisco has increased yearly. The estimated case rates indicate that the homeless are afflicted with TB at roughly 10 times the rate of San Francisco as a whole and 40 times the overall U.S. rate. In order to decrease the number of TB cases among the homeless several interventions are being carried out or are in the planning stage.

Environmental Interventions. A team lead by the San Francisco Department of Public Health (SFDPH) Bureau of Toxics and the Mayors Office of Community Development has begun to inspect shelters to assess the adequacy of their ventilation systems. To date, the City's seven largest homeless shelters have had their ventilation systems assessed. Though improvements have been made, the shelters' systems remain far below the standard established by the CDC (Centers for Disease Control and Prevention) and ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineers). Later this year the team will begin assessments of congregate living sites for people with HIV (Human Immunodeficiency Virus) disease.

SFDPH's Health Care for the Homeless Program (HCH) installed High Efficiency Particulate Air Filters (HEPA) in clinical exam rooms and offices in the shelters. These are small units that draw through an extremely small mesh filter and trap particles as small as TB droplets; they are useful in rooms without adequate ventilation.

Increased Screening for Tuberculosis. There has been an increase in PPD (purified protein derivative) skin testing among the homeless in shelters, food lines, and single residence occupancy (SROs) hotels. One study has tested more than 1000 homeless persons for TB and HIV infection. In reporting on the first 691 participants it was found that 28% had positive PPDs and 10% were HIV positive. Twenty percent of those who were PPD positive were also HIV positive. Homeless persons with a positive PPD were more likely to have been homeless longer and twice as likely to have stayed in shelters than those whose PPD was negative (2). This finding reinforces the speculation that crowded shelters facilitate the transmission of TB.

HCH in conjunction with the Tom Waddell Clinic (SFDPH) has also continued to screen homeless persons for TB and maintains a high suspicion for active disease.

Interventions to increase compliance. The SFDPH TB clinic maintains an excellent rate (95-98%) of successful completion of drug therapy For those at risk of noncompliance, treatment is monitored daily by the Directly Observed Therapy (DOT) Program. The homeless are the largest group followed in the program. They receive transportation vouchers, food, and friendly treatment which act as incentives to completion of therapy.

In the past, less than half of the homeless referred to the TB Clinic showed up for evaluation of a positive PPD. A recent study compared two experimental interventions to increase the show up rate with the usual type of referral to the TB Clinic (3). It was found that 68% of the 59 homeless persons who were assigned a peer health advisor completed their initial appointment. Peer health advisors are formerly homeless persons hired to help clients keep appointments. Of the 55 homeless persons who received a monetary incentive ($5.00), 82% completed their appointment. Fifty two people received "usual care", which consisted of a bus token and an appointment; 54% of them completed their

appointment. This study is also looking at long term compliance with preventive medication but results are not yet available.

Discussion. The stabilizing of TB cases and rates among the homeless in the last year seem to indicate that continued prompt diagnosis, effective treatment and contact investigation by TB Control, along with the primary care given to homeless HIV infected persons at the Tom Waddell Clinic, are proving successful. In the past year there have been new efforts in reducing transmission of TB through increased efforts in education and PPD screening of homeless persons in shelter and hotels. Additionally, efforts have increased to expedite follow-up appointments at the TB clinic for homeless persons found to have a positive PPD.

In 1992 HCH also instituted a respite program in one of the shelters. Homeless persons too ill to be on the streets, but not sick enough to require hospitalization, were able to rest and recuperate while having their medications and appointments monitored. Patients with TB who are no longer contagious have also participated in this program. For those with active TB disease, alternative housing for the duration of their treatment, is an area in need of further development. As an example, hotel rooms set aside for homeless persons with TB could both provide housing and make it easier to monitor compliance with drug therapy.

Environmental changes designed to reduce the transmission of TB need to be assessed and evaluated. SFDPH is trying to gain the necessary expertise to rationally tailor the use of ventilation, germicidal UV lamps, and HEPA filters to reduce transmission in the shelters and congregate living sites. Cost, safety, efficacy, and comfort are important factors to be taken into account. In one large shelter where documented PPD skin test conversions in two health care providers occurred, the renovation of the ventilation system cost $32,000. Shelter residents have complained of cooler temperatures after ventilation improvements and heating bills have increased.

Currently the TB Clinic in conjunction with HCH will be hiring a health worker to coordinate screening efforts, assist with finding homeless persons with TB, and arrange for a mobile x-ray van to be used at shelters and hotels. Along with increased screening, an SFDPH health educator will continue to provide training and education to shelter and other program staff working with homeless individuals.

For further information contact Daniel Wlodarczyk MD, SFDPH, 101 Grove St., Room 323, 415-554-2670.

References

1. CDC. Prevention and Control of TB Among Homeless Persons: recommendations of the advisory council for the elimination of tuberculosis. MMWR 1992;41:RR-5 13-21.

2. Zolopa A, Vranizan K, Meakin R, Moss AR. Tuberculosis and HIV infection in the Homeless Population of San Francisco, CA. Abstract VIII International Conference on AIDS. Amsterdam July 19, 1992.

3. Pilote L, Peterson J. Improving Compliance with Tuberculosis Prophylaxis in a Homeless Population: a randomized clinical trial of a community intervention. Abstract Society of General Internal Medicine Meeting, Washington D.C. May 1993.

Table. Tuberculosis Among the Homeless in San Francisco 1988-92

Year	1988	1989	1990	1991	1992
Number of Homeless/Transient TB Cases#	18	23	34	41	40
% of Total S.F. Cases	5.8%	8.0%	10.2%	12.3%	11.3%
Estimated Homeless Population*	5000	6000	6500	7000	7500
Homeless Case Rate/100,000	360	383	523	585	533
S.F. Case Rate/100,000	42.6	38.9	46.1	46	39

Homeless/Transient is defined by TB Control as those living on the streets, shelters or in a temporary single room occupancy hotel(SRO) room.
* There are no accurate counts of the number of homeless in San Francisco. The 1989 estimate was based on a count done by the mayors office which used shelter providers, hotel managers, police, and park employees. Subsequent years an increment of 500 has been added to reflect the increasing population. These figures are for rough comparison only.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

13 WEEK PERIOD ENDING 07-03-93

DISEASE	CASES REPORTED WEEKS 14 THROUGH 26			TOTAL CASES REPORTED TO DATE		
	1991	1992	1993	1991	1992	1993
AIDS	524	479	1316	1054	976	3246
AMEBIASIS	75	63	48	159	119	102
CAMPYLOBACTERIOSIS	215	188	168	384	351	314
CHANCROID	0	0	0	2	0	0
CHLAMYDIAL INFECTIONS	576	530	691	1311	1131	1229
GIARDIASIS	101	77	71	173	146	134
GONORRHEA	778	638	655	1677	1419	1184
H. INFLUENZAE INVASIVE DISEASE	1	5	4	5	5	12
HEPATITIS Type A	49	102	53	113	233	108
HEPATITIS Type B	22	17	23	42	46	39
HEPATITIS Non A - Non B	2	0	2	3	0	4
LISTERIOSIS	5	1	2	12	3	4
LYME DISEASE	1	0	0	1	0	1
MALARIA	3	5	4	4	6	8
MEASLES	1	0	2	2	1	3
MENINGOCOCCAL INFECTIONS	0	3	1	4	6	1
PELVIC INFLAMMATORY DISEASE	53	56	57	120	96	93
PERTUSSIS	1	0	0	3	1	0
RUBELLA	1	1	0	1	2	0
SALMONELLOSIS	37	48	47	97	79	96
SHIGELLOSIS	51	64	56	128	132	107
SYPHILIS, Total	179	76	40	375	214	82
SYPHILIS, Primary & Secondary	44	25	17	116	53	38
TUBERCULOSIS	95	97	90	173	188	185
TYPHOID FEVER	0	0	1	2	2	1

TOTAL DEATHS REPORTED THIS PERIOD					
	2027	2055		4387	4451
Deaths from pneumonia and influenza	26	27		106	74
Medical Examiner cases	378	398		788	834
Drug-related cases	80	65		162	153
Cocaine-related cases	39	35		83	74

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41 Guidelines for 1993-1994 Influenza Vaccine Use

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Epidemiology of Reportable Sexually Transmitted Diseases San Francisco, 1988-1992

Control of sexually transmitted diseases (STDs) is one of the oldest mandates of the San Francisco Department of Public Health. The following is an assessment of STDs in San Francisco in 1992 and trends in STD morbidity over the past five years.

Sources of data. Under Title 17, the California Administrative code requires that all laboratories that isolate or identify a reportable STD agent and all health care providers who diagnose a case of a reportable STD submit the name of the patient along with demographic and locating information to the local health department. In 1990 the list of reportable STDs in California was amended to include all of the following: syphilis, gonorrhea, chlamydia, pelvic inflammatory disease (PID), non-gonococcal urethritis (NGU), chancroid, lymphogranuloma venereum, and granuloma inguinale. Required locating and demographic information includes name, address, date of birth, gender, and race or ethnicity.

Cases are reported confidentially by mail, telephone, and FAX to the Division of STD Control of the San Francisco Department of Public Health at 356 Seventh Street. Active surveillance for STDs consists of yearly audits of the records of major San Francisco laboratories to discover unreported cases. No audits have been done on private health care providers.

City Clinic, the Health Department's public STD clinic, was the single greatest source of STD reports in 1992, and reported nearly half of all gonorrhea and early syphilis cases (Table 1). Private hospitals and physicians were significant reporting sources as well.

There have been only twenty-two reports of lymphogranuloma venereum and two reports of granuloma inguinale since 1985, and none in 1992. This report will therefore focus on gonorrhea, syphilis, and chlamydia.

Trends. The decreases in STDs reported here last year continued through 1992 (Table 2). Gonorrhea, syphilis, and chancroid cases all reached five-year lows in 1992. Only five cases of congenital syphilis were reported, and only one case of chancroid. Chlamydia was the only STD that failed to show a substantial decrease.

Early syphilis cases decreased over 50 percent, down from 315 in 1991 to only 135 in 1992. Decreases were seen in all age groups and all races between 1991 and 1992, though the greatest decreases were seen among cases in African Americans, who experienced an epidemic of syphilis in 1990 (Figure 1). Greater decreases in younger age groups has lead to an increase in the average age of syphilis patients (Figure 2); this trend was not statistically significant, however.

Lesser decreases were seen for gonorrhea reports. Overall, reports decreased fourteen percent, from 3134 in 1991 to 2705 in 1992. Decreases were seen for African Americans, Asians, and whites, while Hispanics and Native Americans experienced small increases (Figure 3).

Chlamydia decreased by only three cases between 1991 and 1992. Even more than other STDs, figures for chlamydia should be considered minimum estimates, since testing for chlamydia is not universally available and many clinicians empirically treat these patients and therefore do not report them as chlamydia.

Editorial note. This is the second consecutive year where no increases have been seen in any of the reportable STDs in San Francisco.

Early syphilis cases among African Americans, which peaked in the second quarter of 1990, are now below the level seen in 1988, when early cases among this group began to increase. The reasons for this epidemic and its disappearance remain unexplained.

Laboratory audits have revealed that a significant number of STD cases are not reported to the health department. Furthermore, even if all isolates and diagnoses were reported, there would still be many more STD patients who were treated empirically without diagnostic testing, or who remain asymptomatic and never seek medical care. Because of these limitations, the figures reported above should only be interpreted as minimum estimates of the true incidence of STDs in San Francisco.

It should also be noted that minority populations may be over represented in STD surveillance. These populations may be more likely to seek out public sources of health care that are in turn more likely to report cases to the Division of STD Control. Differences in rates among racial/ethnic groups may therefore not be as great as shown in the above tables. However, trends in incidence over time should not be affected by this artifact.

Planning effective STD prevention and intervention strategies ultimately depends on the quality of surveillance data. Improving reporting of STDs (particularly chlamydia, NGU, and PID) and completeness of demographic data is a priority for the Division of STD Control.

Any health care professional needing confidential morbidity report cards or general information on how to report STDs should contact City Clinic at 864-8100 and ask for a representative from the surveillance section.

Table 1. San Francisco STDs reported in 1992 by health care provider

	Chlamydia		Gonorrhea		Early Syphilis	
REPORTING SOURCE	*cases*	*percent*	*cases*	*percent*	*cases*	*percent*
City Clinic	443	19.7	1299	48.0	67	49.6
SFGH	172	7.6	253	9.4	10	7.4
Health Centers	63	2.8	15	0.6	1	0.7
Youth Guidance Center	42	1.9	20	0.7	2	1.5
Jail Medical Services	20	0.9	115	4.3	9	6.7
Private Doctor	376	16.7	166	6.1	14	10.4
Other Hospital	669	29.7	505	18.7	22	16.3
Tom Waddell/Other Public Clinics	199	8.8	223	8.2	6	4.4
Private/ Unknown Clinic	171	7.6	54	2.0	2	1.5
Other Lab	2	0.1	5	0.2	0	0.0
Unknown/Other Source	97	4.3	50	1.8	2	1.5
TOTAL	2254	100.0	2705	100.0	135	100.0

Table 2. STD cases and rates, San Francisco, 1988-1992. Denominators for rates from 1990 US Census Data.

	Reported cases					*Incidence rate*				
	1988	**1989**	**1990**	**1991**	**1992**	**1988**	**1989**	**1990**	**1991**	**1992**
SYPHILIS (total)	544	607	861	645	424	75.1	83.8	118.9	89.1	58.6
Primary	89	112	180	78	41	12.3	15.5	24.9	10.8	5.7
Secondary	110	126	175	82	54	15.2	17.4	24.2	11.3	7.5
(P&S subtotal)	199	238	355	160	95	27.5	32.9	49.0	22.1	13.1
Early latent	157	145	216	155	40	21.7	20.0	29.8	21.4	5.5
(Early subtotal)	356	383	571	315	135	49.2	52.9	78.9	43.5	18.7
Latent, unknown duration	1	4	2	1	75	0.1	0.6	0.3	0.1	10.4
Late latent	178	212	265	313	209	24.6	29.3	36.6	43.2	28.9
(Latent disease subtotal)	336	361	483	469	324	46.4	49.9	66.7	64.8	44.8
Late with symptoms	5	2	1	2	0	0.7	0.3	0.1	0.3	0.0
Congenital syphilis	4	6	22	14	5	39.8	59.8	218.1	141.5	52.4
Neurosyphilis (any stage)	5	24	18	11	8	0.7	3.3	2.5	1.5	1.1
GONORRHEA	5,672	4,266	3,848	3,134	2,705	783.5	589.3	531.5	432.9	373.6
CHLAMYDIA	1,166	1,908	2,670	2,257	2,254	161.1	263.6	368.8	311.8	311.3
PELVIC INFLAMMATORY DISEASE (total)	620	502	338	214	195	171.5	138.9	93.5	59.2	54.0
Gonococcal	473	310	150	48	40	130.9	85.8	41.5	13.3	11.1
Chlamydial	38	68	65	31	31	10.5	18.8	18.0	8.6	8.6
Non-specific	109	124	121	135	120	30.2	34.3	33.5	37.4	33.2
Unspecified	0	0	2	0	4	0.0	0.0	0.6	0.0	1.1
CHANCROID (total)	8	33	55	26	17	1.1	4.6	7.6	3.6	2.4
Culture-confirmed	8	24	35	2	1	1.1	3.3	4.8	0.3	0.1
Unconfirmed	0	9	20	24	16	0.0	1.2	2.8	3.3	2.2
GRANULOMA INGUINALE	0	0	1	0	0	0.0	0.0	0.1	0.0	0.0
LYMPHOGRANULOMA VENEREUM	6	3	4	1	0	0.8	0.4	0.6	0.1	0.0
NONGONOCOCCAL URETHRITIS	515	803	1,173	1,524	1,680	71.1	110.9	162.0	210.5	232.1

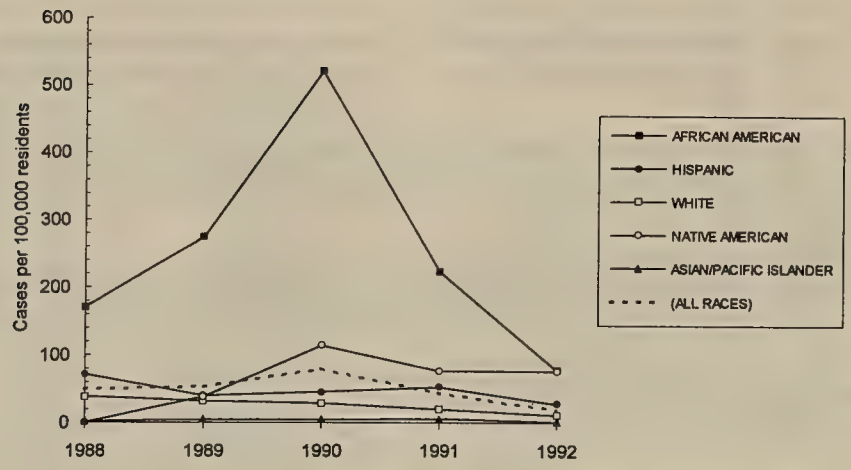

Figure 1. Early syphilis rates for San Francisco, 1998-1992, by race/ethnicity. Denominators for rates from 1990 US Census Data.

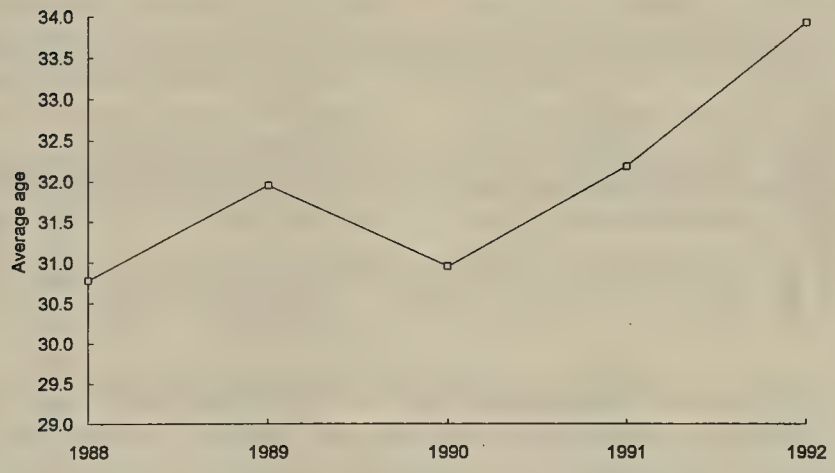

Figure 2. Average age of reported early San Francisco syphilis cases, 1988-1992. Increases in mean age over time did not reach level of statistical significance.

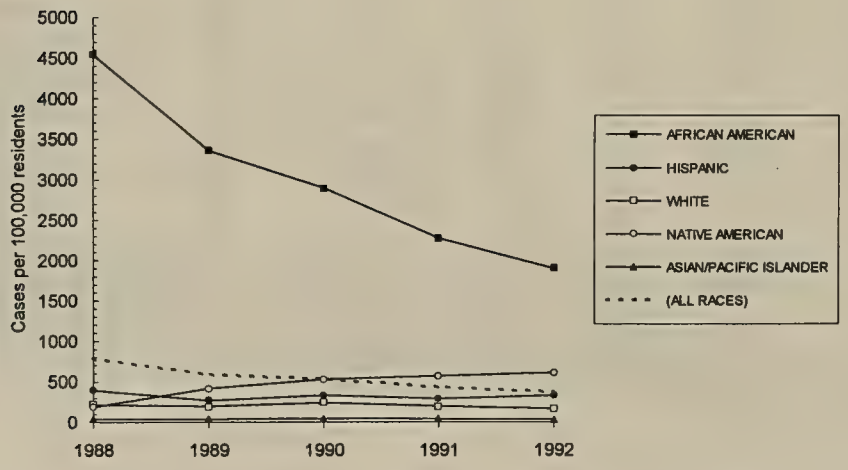

Figure 3. Gonorrhea rates for San Francisco, 1998-1992, by race/ethnicity. Denominators for rates from 1990 US Census Data.

Guidelines for 1993-1994 Influenza Vaccine Use*

Vaccination of high-risk persons each year before the influenza season is the single most important measure for reducing the impact of influenza. The target groups for immunization include:

Groups at increased risk of influenza-related complications.

1. Persons ≥ 60 years of age.
2. Residents of nursing homes and other chronic care facilities housing patients of any age with chronic medical conditions.
3. Adults and children with chronic disorders of the cardiovascular or pulmonary systems, including:
   a. children with asthma
   b. adults and children who have required regular medical follow-up or hospitalization during the preceding year because of chronic metabolic disease (including diabetes mellitus), renal dysfunction, anemia, or immunosuppression (including immunosuppression caused by medications or HIV Infection)
   c. children and teenagers (six months through 18 years of age) who are receiving long-term aspirin therapy and, therefore, may be at risk of developing Reye syndrome following influenza infection.

Groups that can transmit influenza to high-risk persons.

1. Physicians, nurses, and other personnel in both hospital and out-patient settings who have extensive contact with high-risk patients in all age groups, including infants.
2. Employees of nursing homes and chronic care facilities who have contact with patients or residents.
3. Providers of care to high-risk persons in the home setting (e.g., visiting nurses, volunteer workers).
4. Household members (including children) of high-risk groups.

Immunodeficient persons. Because influenza vaccine contains only non-infectious viruses, it cannot cause influenza. Since influenza may result in serious illness and complications, vaccination is a prudent precaution which will result in protective antibody levels in many recipients. However, the response to vaccine may be low in persons with advanced HIV related illness. A booster dose does not improve the response for these individuals. They can be protected in some measure by immunization of those around them, including caregivers.

San Francisco comment: The kickoff for the annual flu campaign will be held at Aquatic Park, San Francisco Senior Center, October 28, 1993 from 1:00-3:00pm. Immunizations will be available at District Health Centers #1, 2, 3, 4, and 5 on the mornings of November 2, 4, 16, and 18 (8:30-11:00am). Potrero Hill and South East Health Centers will be offering flu vaccine by appointment during their regularly scheduled primary care clinics (please call for specific times).

The last chance for flu shots will be at Tom Waddell Clinic, 50 Lech Walesa (formerly Ivy Street), November 22 through December 31, from 1:00-4:00pm, excluding weekends and holidays. The Bureau of Epidemiology and Disease Control has also made vaccine available to private clinics and physicians.

The 1993-94 vaccine contains three strains: A/Texas 36/91-like (H1N1), A/Beijing/32/92-like (H3N2), and B/Panama/45/90-like antigens. Influenza season usually begins in late November or early December. Since determination of outbreaks of influenza depends on rapid notification by providers, any unusual incidence of respiratory infection should be reported immediately by telephone to the Bureau of Epidemiology and Disease Control at 554-2830. Arrangements will be made for the collection of appropriate specimens, which will facilitate efforts to document the presence of influenza in the area.

***Adapted from MMWR 1993;42:No.RR.6.**

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

8 WEEK PERIOD ENDING 08-28-93

DISEASE	CASES REPORTED WEEKS 27 THROUGH 34			TOTAL CASES REPORTED TO DATE		
	1991	1992	1993	1991	1992	1993
AIDS	357	276	550	1411	1252	3796
AMEBIASIS	54	25	42	213	144	144
CAMPYLOBACTERIOSIS	142	118	110	526	469	424
CHANCROID	0	0	0	2	0	0
CHLAMYDIAL INFECTIONS	287	362	363	1598	1493	1592
GIARDIASIS	43	37	70	216	183	204
GONORRHEA	457	388	352	2134	1807	1536
H. INFLUENZAE INVASIVE DISEASE	5	5	2	10	10	12
HEPATITIS Type A	64	31	26	177	264	134
HEPATITIS Type B	11	10	7	53	56	46
HEPATITIS Non A - Non B	0	0	0	3	0	4
LISTERIOSIS	1	0	0	13	3	4
LYME DISEASE	2	2	1	3	2	2
MALARIA	1	2	3	5	8	11
MEASLES	0	0	0	2	1	3
MENINGOCOCCAL INFECTIONS	0	2	0	4	8	1
PELVIC INFLAMMATORY DISEASE	23	28	25	143	124	118
PERTUSSIS	2	2	0	5	3	0
RUBELLA	0	0	0	1	2	0
SALMONELLOSIS	21	26	34	118	105	130
SHIGELLOSIS	62	66	51	190	198	158
SYPHILIS, Total	97	50	25	472	264	107
SYPHILIS, Primary & Secondary	16	16	8	132	69	46
TUBERCULOSIS	40	47	52	213	235	237
TYPHOID FEVER	0	1	1	2	3	2
TOTAL DEATHS REPORTED THIS PERIOD	1184	1185		5571	5636	
Deaths from pneumonia and influenza	24	21		130	95	
Medical Examiner cases	192	197		980	1031	
Drug-related cases	47	52		209	205	
Cocaine-related cases	17	32		100	106	

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC HEALTH
BUREAU OF EPIDEMIOLOGY AND DISEASE CONTROL

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Vol. 9, Nos. 11/12 Nov./Dec. 1993

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

43 Results of Active Surveillance for Selected Invasive Bacterial Infections in the Bay Area, 1989-92
44 Announcement: 1994 Perinatal Institute
45 Summary of Hepatitis B Immunization Schedules

SF
P70
#25
2-'93

Results of Active Surveillance for Selected Invasive Bacterial Infections in the Bay Area, 1989-92: Evidence of a marked decline in H. influenzae B disease in children under five years old.

Beginning in November 1988, active laboratory-based surveillance was initiated in three Bay Area counties (San Francisco, Alameda, and Contra Costa) with funds provided by the Centers for Disease Control. In addition to monitoring the incidence of bacterial, mycobacterial, and fungal infections, this surveillance system has been used as a source of cases for enrollment in a variety of epidemiologic studies, including a study of risk factors for sporadic listeriosis (infection with L. monocytogenes); a study of risk factors for cryptococcosis (infection with C. neoformans); studies of risk factors for group B streptococcal infections in infants and in adults; and studies of the efficacy of vaccines against H. influenzae B (Hib) and S. pneumoniae.

The surveillance system has been particularly useful in monitoring trends in invasive disease due to H. influenzae as polysaccharide and conjugate Hib vaccines have become available and been accepted as a part of the routine schedule of infant immunizations. Until recently, Hib has been the leading cause of invasive bacterial disease in children under 5 years of age in the United States, with an estimated one in 200 children developing invasive Hib disease before age 5. As has been seen nationally (1), cases of invasive Hib disease in children under age 5 have plummeted since 1989 in the three Bay Area counties (Figure), falling from 39 cases in 1989 to three cases in 1992 and only one case detected to date in 1993. Within San Francisco itself, the number of cases of invasive Hib disease in children under 5 (estimated population at risk = 35,600) in 1989 was six, with no cases being detected in 1992 or 1993. Invasive infections due to H. influenzae in adults, which are mostly due to non-b serotypes or untypeable strains, have, as expected, not declined substantially. The rate of invasive infection with N. meningitidis, has also remained steady at the expected level (1-1.5 per 100,000 total population) since 1990, following an increase in meningococcal disease (primarily due to serogroup C) in 1989.

The observed marked decline in invasive Hib disease in children under 5 cannot be attributed to a failure to detect laboratory-confirmed infections in recent years, as audits of all hospital microbiology laboratories in the three counties are performed annually to assure that any previously undetected infections are found and recorded. These periodic audits reveal that the sensitivity of the surveillance system for culture-confirmed Hib infections is very high (>90%). Given the absence of changes in the incidence rate of N. meningitidis infections in children in the same area during the same time interval, it is unlikely that the observed marked decline in Hib disease is due to changes in care-seeking or care-giving behaviors. Instead, the active surveillance system is helping us document the virtual elimination of invasive Hib disease in young children due to widespread use of the Hib vaccines that have become available in the last few years.

REFERENCES

1. Adams WG, Deaver KA, Cochi SL, et al. Decline of Childhood *Haemophilus influenzae* Type b (Hib) Disease in the Hib Vaccine Era. JAMA 1993;269-221-226.

FIGURE. Invasive H. influenzae type b infection in children < 5 years, three Bay Area counties, 1989 - mid 1993, cases per 100,000

San Francisco Department of Public Health

Perinatal Services

Presents

1994 Perinatal Institute

Immunization Summit: A Clinical Update
featuring Loring Dales, M.D., California Dept. of Health Services
January 28, 1994

Working Together to Combat Domestic Violence During Pregnancy
February 25, 1994

Designing Perinatal Outreach: an Opportunity to Receive Technical Assistance on Your Agency's Plan
March 23, 1994

CEUs are available for most events.
For more information please call Therese McCluskey at 554-2563.

SUMMARY OF HEPATITIS B IMMUNIZATION SCHEDULES*

Recommendations of the California Department of Health Services
Immunization Branch
August, 1993

IZ Policy or Procedure

SCHEDULE INFORMATION

PREVENTIVE (PRE-EXPOSURE)

Routine Infant Immunization

	HBVac Dose #1	HBVac Dose #2	HBVac Dose #3
Option 1	At birth	Age 1-2 months	Age 6-18 months
Option 2	Age 1-2 months	Age 4 months	Age 6-18 months

Other Groups For Whom Vaccine Is Indicated

❶ 1st visit .....HBVac (hepatitis B vaccine) #1
❷ 1 month after 1st dose .....HBVac #2
❸ 6 months after 1st dose .....HBVac #3

Booster doses not routinely recommended.

➡ See notes A through F.

POST-EXPOSURE

(Including Infants born to carrier mothers)

❶ As soon as possible .HBIG and HBVac Dose #1

❷ 1 Month after 1st dose .....HBVac Dose #2
(For infants, the 2nd dose can be 6 weeks after 1st dose, at same time as DTP/OPV/Hib doses.)

❸ 6 months after 1st dose .....HBVac Dose #3

HBVac and HBIG DOSE INFORMATION (INTRAMUSCULAR)

MERCK SHARP & DOHME RECOMBIVAX-HB

Age/Status	Dose†	Formulation	Vial Color Code
Infants born of:			
HBsAg Negative Mothers	0.5 ml (2.5 mcg)	Pediatric	Brown
HBsAg Positive Mothers	0.5 ml (5 mcg)	Adolescent/ High-Risk Infant (or Adult)	Yellow (Green)
Child 1-10 years of age	0.5 ml (2.5 mcg)	Pediatric	Brown
Child 11-19 years of age	0.5 ml (5 mcg)	Adolescent/ High-Risk Infant (or Adult)	Yellow (Green)
20 years of age	1.0 ml (10 mcg)	Adult	Green
Predialysis and Dialysis Patients	1.0 ml (40 mcg)	Dialysis	Blue

† If the suggested formulation is not available, the appropriate dosage can be achieved from another formulation provided that the total volume of vaccine administered in one injection does not exceed 1 ml. The Dialysis Formulation is generally used only for adult predialysis/ dialysis patients. Formulation and dosage for adults with other immunocompromising conditions and for children who are immunocompromised or are in predialysis/dialysis status is left to individual medical judgement.

SMITH KLINE BEECHAM ENGERIX-B

Age/Status	Dose (only one formulation)
• Under 11 years old‡	0.5 ml (10 mcg)
• 11 years and older	1.0 ml (20 mcg)
• All ages, immuno-compromised or on dialysis	2.0 ml (40 mcg)

‡ Includes all infants regardless of mother's HBsAg status.

HBIG (INTRAMUSCULAR)

Age	Dose
• Infants (<1 year old)	0.5 ml
• Children and adults	0.06 ml/kg

Notes

A. Hepatitis B vaccine is given intramuscularly (IM), generally in the deltoid for adults, toddlers and older children, and in the anterolateral thigh muscle for infants. Do not use the buttocks. Use a 1" to 1-1/2" needle for children and adults, and a 1" needle for infants (for newborn and 1-2 month old infant, 5/8" needle can be used if administrator is certain that muscle tissue will be reached).

B. If delay occurs between doses, even if a year or more has elapsed, do not start over, just finish series.

C. Alternate Engerix-B schedule: 4 doses with 2nd-4th doses 1, 2, and 12 months after 1st dose.

D. Can start series on one vaccine (Recombivax or Engerix or foreign country's vaccine) and finish on the other, but use correct dose for each.

E. Testing for anti-HBs 1-2 months after final HBVac dose not routinely recommended, but is advised (a) for persons whose subsequent management depends on knowing their immunity status (e.g., staff at high occupational exposure risk), (b) for persons for whom a suboptimal antibody response may be anticipated, and (c) for infants born to carrier mothers (test 3-9 months after final HBVac dose). Give non-responders 1-3 more HBVac doses and then re-test.

F. HBVac can be given simultaneously with other pediatric or adult vaccines, at separate sites.

G. HBIG (hepatitis B immune globulin) is given intramuscularly (IM). When HBVac also is given, use different sites.

H. Timing of post-exposure HBIG:
- Within 12 hours after birth from infected mother;
- Within 24 hours, if possible, of percutaneous or permucousal exposure;
- Within 14 days (preferably sooner) after sexual exposure to an acute hepatitis B case.

I. Susceptible household contacts of carrier: For blood exposure contacts, use Post-Exposure Schedule; for all others, use Pre-Exposure Schedule.

WARNING: Do not use the Intradermal (ID) route for administration of HBVac.

California recommendations are adapted in part from the recommendations of the Immunization Practices Advisory Committee (ACIP): MMWR 11/22/91, Vol. 40 (RR-12):1-25. To report acute infection or carrier status of hepatitis B virus, or for further information, contact your local health department.

Immunization Branch • California Department of Health Services • 2151 Berkeley Way • Berkeley, CA 94704 • (510) 540-2065

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

9 WEEK PERIOD ENDING 10/30/93

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 35 THROUGH 43			TOTAL CASES REPORTED TO DATE		
	1991	1992	1993	1991	1992	1993
AIDS	314	301	546	1,725	1,553	4,342
AMEBIASIS	55	17	64	268	161	208
CAMPYLOBACTERIOSIS	151	130	113	677	599	537
CHANCROID	0	1	0	2	1	0
CHLAMYDIAL INFECTIONS	409	326	373	2,007	1,819	1,965
GIARDIASIS	49	33	72	265	216	276
GONORRHEA	657	505	331	2,791	2,312	1,867
H. INFLUENZAE INVASIVE DISEASE	2	0	3	12	10	15
HEPATITIS Type A	99	49	36	276	313	170
HEPATITIS Type B	14	11	21	67	67	67
HEPATITIS Non A - Non B	1	2	0	4	2	4
LISTERIOSIS	0	0	0	13	3	4
LYME DISEASE	0	0	0	3	2	2
MALARIA	2	1	2	7	9	13
MEASLES	1	0	1	3	1	4
MENINGOCOCCAL INFECTIONS	2	0	0	6	8	1
PELVIC INFLAMMATORY DISEASE	28	20	30	171	144	148
PERTUSSIS	0	0	4	5	3	4
RUBELLA	0	0	0	1	2	0
SALMONELLOSIS	34	58	50	152	163	180
SHIGELLOSIS	42	79	62	232	277	220
SYPHILIS, Total	98	45	24	570	309	131
SYPHILIS, Primary & Secondary	30	17	7	162	86	53
TUBERCULOSIS	63	59	64	276	294	301
TYPHOID FEVER	0	0	1	2	3	3
TOTAL DEATHS REPORTED THIS PERIOD	1,425	1,303		6,996	6,939	
Deaths from pneumonia and influenza	1	28		131	123	
Medical Examiner cases	296	214		1,276	1,245	
Drug-related cases	35	48		244	253	
Cocaine-related cases	20	19		120	125	

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Vol. 10 Nos. 1/2 Jan./Feb. 1994

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

1 STD Treatment Guidelines Update

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SF
P70
#85
2-'94

STD Treatment Guidelines Update

Physicians and other health care providers play a critical role in the effort to prevent and control sexually transmitted diseases (STDs) through timely and effective treatment of infected individuals. Since 1986, the CDC has published STD treatment guidelines to be used as a source of clinical guidance for all practitioners in any clinical setting in the United States. In 1993, the STD treatment guidelines were updated and released in December (1993 STD Treatment Guidelines. MMWR 1993; 42:RR-14) after a multistage process. This article will review the process that was used to develop these new guidelines; highlight the differences between the 1989 and 1993 editions, including the rationale used for making a change, if appropriate; outline the treatment regimens now used at the San Francisco (SF) STD clinic, City Clinic; and review the STD services and resources within the Division of STD Prevention and Control of the SF Department of Public Health that are available to individuals and health care providers.

This article is not a comprehensive review of the entire CDC document; it is a summary of the most commonly encountered STD treatment issues. A copy of the 1993 STD treatment guidelines can be obtained by calling the voice information system at the CDC (404-639-1819); multiple copies can be requested by writing the Information Services office of NCPS, Centers for Disease Control and Prevention, 1600 Clifton Rd., Atlanta, GA 30333.

1993 STD Treatment Guideline Development

In January 1993, expert consultants assembled in Atlanta for a 3-day meeting. Information had been assembled by literature review and critical analysis of pertinent studies. Using the available evidence, efficacy of STD treatment regimens were discussed in terms of four principal outcomes of STD therapy: 1) microbiologic cure, 2) alleviation of signs and symptoms, 3) prevention of sequelae, and 4) prevention of transmission. In addition, the quality of the data was evaluated based on the number and types of studies and the quality of those studies. Efficacious regimens evaluated in a large number of individuals using well-designed treatment trials, if available, were included under recommended regimens. Alternative regimens included efficacious drug regimens that have not been evaluated as extensively, especially in as large a number of individuals. None of the alternative regimens offer any advantage over the recommended regimens.

Differences Between the 1989 and 1993 STD Treatment Guidelines

Overview. Included are new recommendations for single-dose oral therapy for gonococcal infections, chlamydial infections, and chancroid; new regimens for the treatment of bacterial vaginosis (BV) and outpatient management of pelvic inflammatory disease (PID); a new patient applied medication for treatment of genital warts; and a revised approach to the management of victims of sexual assault. The report also includes new sections on subclinical human papillomavirus (HPV) infections and cervical cancer screening for women who attend STD clinics or who have a history of STDs. In addition, these recommendations include expanded sections on the management of patients with asymptomatic human immunodeficiency virus (HIV) infection; vulvovaginal candidiasis (VVC);

STDs among patients coinfected with HIV; and STDs among infants, children, and pregnant women.

For quick reference, the commonly used STD treatment regimens recommended for adolescents and adults are outlined in the insert. A comparable quick reference sheet for infants and children is available by request (phone 554-8482).

Summary of Major Changes

Gonorrhea (GC). Many antibiotics are safe and effective for treating gonorrhea, eradicating *N. gonorrhoeae*, ending the possibility of further transmission, relieving symptoms, and reducing the chances of sequelae. Selection of a treatment regimen for *N. gonorrhoeae* infection requires consideration of the anatomic site of infection, resistance of *N. gonorrhoeae* strains to antimicrobials, the possibility of concurrent infection with *C. trachomatis*, and the side effects and costs of the various treatment regimens.

Cefixime, ciprofloxacin, and ofloxacin were added in 1993 to ceftriaxone as recommended regimens for the treatment of uncomplicated gonococcal infections. In clinical trials, these recommended regimens cured >95% of anal and genital infections; any of these regimens may be used for uncomplicated anal or genital infection. Published studies indicate that ceftriaxone 125 mg or ciprofloxacin 500 mg can cure ≥90% of pharyngeal infection. If pharyngeal infection is a concern, one of these two regimens should be used. Cefixime is likely to be effective against pharyngeal gonococcal infection but few patients have been studied. Ofloxacin cured only 88% (22/25) of pharyngeal gonococcal infections.

The dose of IM ceftriaxone was decreased to 125 mg in 1993. Ceftriaxone in a single dose of either 125 mg or 250 mg provides sustained, high bactericidal levels in the blood. Extensive clinical experience indicates that both doses are safe and effective for the treatment of uncomplicated gonorrhea at all sites. In the past, the 250 mg dose was recommended on the supposition that the routine use of a higher dose may forestall the development of resistance. However, on the basis of ceftriaxone's activity against *N. gonorrhoeae*, its pharmacokinetics, and the results in clinical trials of doses as low as 62.5 mg, the 125 mg dose appears to have a therapeutic reserve at least as large as that of other treatment regimens. No ceftriaxone-resistant strains of *N. gonorrhoeae* have been reported. The drawbacks of ceftriaxone are that it is expensive, currently unavailable in vials of <250 mg, and must be administered by injection. Ceftriaxone also may abort incubating syphilis, important when gonorrhea treatment is not accompanied by a 7-day course of doxycycline or erythromycin for the presumptive treatment of chlamydia.

Cefixime has an antimicrobial spectrum similar to that of ceftriaxone, but the 400 mg oral dose does not provide as high nor as sustained a bactericidal level as does 125 mg of ceftriaxone. No gonococcal strains resistant to cefixime have been reported. The advantage of cefixime is that it can be administered orally and is less expensive than ceftriaxone. It is not known if the 400 mg dose can cure incubating syphilis.

Ciprofloxacin and ofloxacin can also be administered orally and are all less expensive than ceftriaxone but are not active against *T. pallidum* and are contraindicated for pregnant or nursing women and for persons <18 years of age. No resistance has been reported in the U.S., but GC strains with decreased susceptibility to some quinolones are becoming common in Asia and have been reported in North America.

Of the alternative regimens, spectinomycin remains useful for the treatment of patients who can tolerate neither cephalosporins nor quinolones. Spectinomycin has the disadvantages of being injectable, expensive, inactive against *T. pallidum*, and relatively ineffective against pharyngeal gonorrhea. In addition, resistant strains have been reported in the U.S. However, spectinomycin can be used in pregnant and nursing women and in adolescents.

Because coinfection with *C. trachomatis* is common, persons treated for gonorrhea should be

treated presumptively with a regimen that is effective against *C. trachomatis*. Doxycycline for non-pregnant individuals and erythromycin for pregnant women are the recommended therapy to treat coexisting *C. trachomatis* infection. Azithromycin is not recommended for routine presumptive treatment of *C. trachomatis* coinfection because of cost.

Chlamydia. Azithromycin was added in 1993 to the recommended regimens for treatment of chlamydial infections. Ofloxacin in a dose lower than the recommended dose for the treatment of GC was added to the alternative regimens.

Doxycycline and azithromycin appear similar in efficacy and toxicity; however, the safety and efficacy of azithromycin for persons <16 years of age have not been established. Doxycycline has a longer history of extensive use, safety, efficacy, and the advantage of low cost. Azithromycin has the advantage of single-dose administration but is expensive. Ofloxacin is similar in efficacy to doxycycline and azithromycin, but is more expensive than doxycycline, cannot be used during pregnancy or with persons <18 years of age, and offers no advantage in dosing. Ofloxacin is the only quinolone with proven efficacy against chlamydial infection. Sulfisoxazole is the least desirable treatment because of inferior efficacy.

Azithromycin is not included in the treatment regimens for chlamydia infections in pregnant or lactating women, because the safety and efficacy in these women have not been established.

Pelvic Inflammatory Disease. An outpatient regimen of ofloxacin (in a dose higher than that recommended for lower genital tract chlamydia infection to ensure GC coverage) plus clindamycin or metronidazole was added in 1993. In previous guidelines, only the one outpatient regimen of cefoxitin or ceftriaxone plus doxycycline was recommended.

Although ofloxacin is effective against both *N. gonorrhoeae* and *C. trachomatis*, it is important to note that the recommended dose of ofloxacin to eradicate gonorrhea is 400 mg po and to eradicate chlamydia is 300 mg po bid for 7 days. One clinical trial demonstrated the effectiveness of oral ofloxacin in obtaining short-term clinical response with PID. Despite results of this trial, there is concern related to ofloxacin's lack of anaerobic coverage; the addition of clindamycin or metronidazole provides this coverage. Clindamycin, but not metronidazole, further enhances the Gram-positive coverage of the regimen.

Clinical trials of outpatient regimens have provided little information regarding intermediate and long-term outcomes. These outpatient regimens provide coverage against the common etiologic agents of PID, but evidence from clinical trials supporting their use is limited. The newly added regimen provides broader coverage against anaerobic organisms but costs substantially more than the cefoxitin/ceftriaxone and doxycycline regimens.

The dose of ceftriaxone for treatment of PID remains at 250 mg and has not been decreased to 125 mg, the recommended dose for lower genital tract GC infection. No data exist regarding the use of oral cephalosporins for the treatment of PID.

HIV-infected women have been added to the list of women who should be hospitalized for treatment of PID. The currently recommended criteria for hospitalization of women with PID are summarized in Table 1.

Mucopurulent cervicitis. No change.

Nongonococcal urethritis (NGU). No change. Data regarding the efficacy of azithromycin for the treatment of NGU was not available for the expert panel to review in January of 1993 and therefore was not included as a recommended regimen. More recent information suggests that the efficacy of azithromycin 1 g orally is equivalent to doxycycline for NGU (see chlamydia section above for a comparison of doxycycline and azithromycin).

Epididymitis. Ofloxacin was added in 1993 as an alternative regimen for treatment of epididymitis. The effect of substituting the 125 mg dose of ceftriaxone recommended for treatment of

uncomplicated *N. gonorrhoeae*, or the azithromycin regimen recommended for treatment of lower genital tract *C. trachomatis* infection, for the treatment of epididymitis is unknown and, therefore, is not recommended.

Trichomoniasis. No change except the use of metronidazole in the second and third trimester of pregnancy is no longer contraindicated. Metronidazole gel has not been studied for the treatment of trichomoniasis.

Bacterial Vaginosis. Metronidazole stat oral dose and metronidazole vaginal gel, as well as clindamycin vaginal cream and oral therapy was added in 1993 to the alternative regimens. The recommended regimen is unchanged.

Herpes Simplex Virus. No change.

Syphilis. Recommendations regarding treatment of syphilis in individuals with HIV infection were changed in the 1993 edition. HIV-infected individuals with early latent disease are no longer treated like individuals with earlier stages of syphilis (i.e. primary and secondary syphilis). It is now recommended that HIV-infected individuals with early latent syphilis undergo cerebral spinal fluid (CSF) examination before treatment. If the CSF examination is normal, then treatment with 7.2 million units of benzathine penicillin G, administered as 3 weekly doses of 2.4 million units each, is recommended. In addition, in 1993 it was added that CSF examination and re-treatment should be strongly considered for HIV-infected patients in whom the suggested fourfold decrease in nontreponemal test titer does not occur within 3 months after treatment for primary or secondary syphilis. In the previous guidelines, it was suggested that HIV-infected patients with primary or secondary syphilis could be followed for 6-12 months for evidence of a fourfold decrease in nontreponemal test titers before considering a CSF examination and re-treatment.

Latent syphilis of undetermined age in HIV-negative individuals should be managed as late latent syphilis unless it can be demonstrated that they acquired syphilis within the preceding year on the basis of documented seroconversion, a fourfold or greater increase in titer of a nontreponemal serologic test, history of symptoms of primary or secondary syphilis, or if they had a sex partner with primary, secondary, or early latent syphilis (documented independently as duration <1 year).

Penicillin is still the only recommended treatment during pregnancy. Tetracycline and doxycycline are contraindicated during pregnancy. Erythromycin should not be used because it cannot be relied upon to cure an infected fetus. Azithromycin and cephalosporins have not been evaluated and, therefore, are not recommended in pregnancy.

Other syphilis management considerations that changed in 1993 were the criteria for CSF examination. These criteria now apply to patients with latent syphilis and syphilis of undetermined age; they previously applied only to patients with late latent syphilis. Two exceptions exist for patients with nontreponemal titers $\geq$1:32 or penicillin allergy if the duration of infection can be documented to be less than one year's duration. Criteria for CSF examination before treatment by stage of syphilis are outlined in Table 2.

Chancroid. Azithromycin was added in 1993 to the recommended regimens for treatment of *H. ducreyi* infections.

Lymphogranuloma Venereum. No change.

Treatment Regimens Used at the SF STD Clinic

Based on the 1993 STD guidelines and cost considerations (Table 3), the primary STD regimens used at the SF STD clinic were reviewed and revised accordingly in January 1994 and are outlined in Table 4.

The dose of IM ceftriaxone for the treatment of uncomplicated gonococcal infections has been changed from 250 mg to 125 mg. The STD Clinic serves a population with a high prevalence of STDs including GC and syphilis which raises the possibility of emerging GC resistance and of

STD TREATMENT GUIDELINES FOR ADULTS AND ADOLESCENTS

DISEASE	RECOMMENDED REGIMENS	ALTERNATIVE REGIMENS
SYPHILIS		
Uncomplicated		
Primary, Secondary, and Early Latent	• Benzathine penicillin G, 2.4 million units IM.	Doxycycline[1] 100 mg po bid x 2 weeks, **or** Tetracycline[1] 500 mg po qid x 2 weeks.
Late Latent and Undetermined Age	• Benzathine penicillin G, 7.2 million units, administered as 3 doses of 2.4 million units IM, at 1-week intervals.	Doxycycline[1] 100 mg po bid x 4 weeks, **or** Tetracycline[1] 500 mg po qid x 4 weeks.
Neurosyphilis	• 12-24 million units aqueous crystalline penicillin G daily, administered as 2-4 million units IV q 4 hrs x 10-14 d.	2.4 million units procaine penicillin IM q d x 10-14 d **plus** probenecid 500 mg po qid x 10-14 d.
HIV Infection		
Primary and Secondary	• Benzathine penicillin G 2.4 million units IM.	none
Latent (Early Latent, Late Latent, and Undetermined Age) **with normal CSF Exam**	• Benzathine penicillin G 7.2 million units administered as 3 doses of 2.4 million units IM at 1-week intervals.	none
Neurosyphilis	• 12-24 million units aqueous crystalline penicillin G daily, administered as 2-4 million units IV q 4 hrs x 10-14 d.	2.4 million units procaine penicillin IM q d x 10-14 d **plus** probenecid 500 mg po qid x 10-14 d.
Pregnant Women		
Primary, Secondary, and Early Latent	• Benzathine penicillin G, 2.4 million units IM.	none
Late Latent and Undetermined Age	• Benzathine penicillin G, 7.2 million units, administered as 3 doses of 2.4 million units IM, at 1-week intervals.	none
Neurosyphilis	• 12-24 million units aqueous crystalline penicillin G daily, administered as 2-4 million units IV q 4 hrs x 10-14 d.	2.4 million units procaine penicillin IM q d x 10-14 d **plus** probenecid 500 mg po qid x 10-14 d.
CHANCROID	• Azithromycin[2] 1 g po, **or** • Ceftriaxone 250 mg IM, **or** • Erythromycin base 500 mg po qid x 7 d.	Amoxicillin 500 mg **plus** clavulanic acid 125 mg po tid x 7 d, **or** Ciprofloxacin[3] 500 mg po bid x 3 d.
HUMAN PAPILLOMAVIRUS		
External Genital/Perianal Warts	Cryotherapy, Podofilox[9] 0.5% solution, Podophyllin[9] 10%-25% in tincture of benzoin, Trichloroacetic acid[8] (TCA) 80%-90%, Electrodessication or electrocautery.	
Vaginal Warts	Cryotherapy, TCA[8] 80%-90%, Podophyllin[9] 10%-25% in tincture of benzoin.	
Urethral Meatus Warts	Cryotherapy, Podophyllin[9] 10%-25% in tincture of benzoin.	
Anal Warts	Cryotherapy, TCA[8] 80%-90%, surgical removal.	
LYMPHOGRANULOMA VENEREUM	• Doxycycline[1] 100 mg po bid x 21 d.	Erythromycin base 500 mg po qid x 21 d, **or** Sulfisoxazole 500 mg po qid x 21 d.

San Francisco STD/HIV Prevention and Training Center (3/94)

1 Contraindicated for pregnant or nursing women.
2 Safety has not been determined for pregnant or nursing women and children < 16 years of age.
3 Contraindicated for pregnant or nursing women and children < 18 years of age.
4 Co-treatment for chlamydial infection is indicated.
5 For patients who cannot tolerate cephalosporins or quinolones; not effective against pharyngeal gonococcal infection.
6 Contraindicated during first trimester of pregnancy.
7 According to manufacturer's data, azithromycin 1 g po is equivalent to doxycycline.
8 Safety during pregnancy not established.
9 Contraindicated during pregnancy.

STD TREATMENT GUIDELINES FOR ADULTS AND ADOLESCENTS

DISEASE	RECOMMENDED REGIMENS	ALTERNATIVE REGIMENS
CHLAMYDIA		
Uncomplicated Infections Adults/Adolescents	• Doxycycline[1] 100 mg po bid x 7 d, **or** • Azithromycin[2] 1g po.	Ofloxacin[3] 300 mg po bid x 7 d, Erythromycin base 500 mg po qid x 7 d, Erythromycin ethylsuccinate 800 mg po qid x 7 d, **or** Sulfisoxazole 500 mg po qid x 10 d (inferior efficacy).
Pregnant Women	• Erythromycin base 500 mg po qid x 7 d.	Erythromycin base 250 mg po qid x 14 d, Erythromycin ethylsuccinate 800 mg po qid x 7 d, Erythromycin ethylsuccinate 400 mg po qid x 14 d, **or** Amoxicillin 500 mg po tid x 7-10 d.
GONORRHEA[4]		
Uncomplicated Infections Adults/Adolescents	• Ceftriaxone 125 mg IM, **or** • Cefixime 400 mg po, **or** • Ciprofloxacin[3] 500 mg po, **or** • Ofloxacin[3] 400 mg po, **plus** Doxycycline[1] 100 mg po bid x 7 d.	Spectinomycin[5] 2 g IM, Ceftizoxime 500 mg IM, Cefotaxime 500 mg IM, Cefotetan 1 g IM, Cefoxitin 2 g IM, Cefuroxime axetil 1 g po, Cefpodoxime proxetil 200 mg po, Enoxacin[3] 400 mg po, Lomefloxacin[3] 400 mg po, **or** Norfloxacin[3] 800 mg po **plus** Doxycycline[1] 100 mg po bid x 7 d.
Pregnant Women	• Ceftriaxone 125 mg IM, **or** • Cefixime 400 mg po, **plus** Erythromycin base 500 mg po qid x 7 d	Spectinomycin 2 g IM, Ceftizoxime 500 mg IM, Cefotaxime 500 mg IM, Cefotetan 1 g IM, Cefoxitin 2 g IM, Cefuroxime axetil 1 g po, **or** Cefpodoxime proxetil 200 mg po **plus** Erythromycin base 500 mg po qid x 7 d.
PELVIC INFLAMMATORY DISEASE	• Cefoxitin 2 g IV q 6 hrs or Cefotetan 2 g IV q 12 hrs **plus** Doxycycline[1] 100 mg IV or po q 12 hrs, **or** • Clindamycin 900 mg IV q 8 hrs **plus** Gentamicin 2 mg/kg IV followed by 1.5 mg/kg IV q 8 hrs, **or** • Cefoxitin 2 g IM **plus** Probenecid 1 g po or Ceftriaxone 250 mg IM **plus** Doxycycline[1] 100 mg po bid x 14 d, **or** • Ofloxacin[3] 400 mg po bid x 14 d **plus** Clindamycin 450 mg po qid x 14 d or Metronidazole[6] 500 mg po bid x 14 d.	
MUCOPURULENT CERVICITIS	• use gonorrhea treatment regimen if prevalence of GC is high. • use chlamydia treatment regimen if prevalence of GC is low.	
NONGONOCOCCAL URETHRITIS[7]	• Doxycycline[1] 100 mg po bid x 7 d.	Erythromycin base 500 mg po qid x 7 d, Erythromycin ethylsuccinate 800 mg po qid x 7 d, Erythromycin base 250 mg po qid x 14 d, **or** Erythromycin ethylsuccinate 400 mg po qid x 14 d.
EPIDIDYMITIS	• Ceftriaxone 250 mg IM **plus** Doxycycline[1] 100 mg po bid x 10 d.	Ofloxacin[3] 400 mg po bid x 10 d.
TRICHOMONIASIS	• Metronidazole[6] 2 g po.	Metronidazole[6] 500 mg po bid x 7 d.
BACTERIAL VAGINOSIS	• Metronidazole[6] 500 mg po bid x 7 d.	Metronidazole[6] 2 g po, Clindamycin cream, 2%, one full applicator (5 g) intravaginally at bedtime x 7 d, Metronidazole[8] gel, 0.75%, one full applicator (5 g) intravaginally, bid x 5 d, **or** Clindamycin 300 mg po bid x 7 d.
HERPES SIMPLEX VIRUS		
First Clinical Episode of Genital Herpes	• Acyclovir[8] 200 mg po 5 x q d x 7-10 d or until clinical resolution is attained.	
First Clinical Episode of Herpes Proctitis	• Acyclovir[8] 400 mg po 5 x q d x 10 d or until clinical resolution is attained.	
Recurrent Episodes	• Acyclovir[8] 200 mg po 5 x q d x 5 d, **or** • Acyclovir[8] 400 mg po tid x 5 d, **or** • Acyclovir[8] 800 mg po bid x 5 d.	
Daily Supressive Therapy	• Acyclovir[8] 400 mg po bid.	Acyclovir[8] 200 mg po 3-5 x q d.

undetected incubating syphilis in patients with other STDs including GC. In addition, a significant number of GC pharyngeal infections and a large number of adolescents needing treatment for GC infections are seen. Thus, the GC regimen of ceftriaxone 125mg IM was selected because of its sustained high bactericidal levels, its coverage for possible incubating syphilis, its efficacy at all anatomical sites, and the fact that it can be used in adolescents and pregnant women. Because of cost considerations primary regimens used for chlamydia, PID and chancroid were not changed.

Syphilis treatment will follow the 1993 STD guidelines. In HIV-infected individuals with primary or secondary syphilis and no signs or symptoms consistent with neurosyphilis, 2.4 million units of benzathine penicillin G IM will be used; those with latent syphilis in whom the CSF examination is without evidence of neurosyphilis, 7.2 million units of benzathine penicillin G IM, administered as 2.4 million units weekly for 3 consecutive weeks, will be given. Additional antimicrobial therapy of longer duration, higher dosage, and better CSF penetration in HIV-infected individuals with primary, secondary or latent syphilis is of unproven benefit, impractical and costly; close follow-up is the most important aspect of managing syphilis in persons with coexisting HIV. HIV-infected individuals with neurosyphilis will be treated with crystalline penicillin G 24 million units IV a day administered as 4 million units IV every 4 hours for 14 days. If no evidence of primary or secondary syphilis exists at the time of neurosyphilis treatment then 2.4 million units of benzathine penicillin G IM will be given on the 14th day of IV penicillin.

Division of STD Prevention and Control Services

The Division of STD Prevention and Control provides comprehensive STD clinical services at City Clinic as well as STD clinical consult services for SF health care providers evaluating and treating STD patients.

For individuals who have STD symptoms, who are sexual contacts to someone treated for an STD, or who think they may have an STD, comprehensive and confidential STD diagnostic treatments and counseling services are provided at City Clinic, 356 7th Street, San Francisco, CA, 94103; 864-8100. As of 4/6/94, our drop-in hours* will change and will be as follows:

Monday	8am - 4pm
Tuesday	1pm - 6 pm
Wednesday	8am - 4pm
Thursday	1pm - 4pm
Friday	8am - 4pm

* Individuals referred to City Clinic should be informed that waiting times on average are 30 minutes to one hour but may be as long as 3 hours.

For providers who have questions regarding the STD management of their patients, especially regarding the use or interpretation of a STD diagnostic test or the appropriate treatment and follow-up of patients or their sex partners please call 864-8100 Monday through Friday between 9am and 5pm to speak with the STD consult physician. At other times a confidential message can be left for the STD consult physician by calling 554-9650.

Clinical STD updates and trainings (554-9630), STD partner referral services (864-8100), STD health education materials and technical assistance (554-8450), STD morbidity data (554-8450) are also available upon request by calling the respective phone numbers noted in the parentheses.

Table 1: Recommended minimum criteria for hospitalization of women with PID

- The diagnosis is uncertain and surgical emergencies such as appendicitis and ectopic pregnancy cannot be excluded,
- Pelvic abscess is suspected,
- The patient is pregnant,
- The patient is an adolescent,
- The patient has HIV infection,
- Severe illness or nausea and vomiting preclude outpatient management,
- The patient is unable to follow or tolerate an outpatient regimen,
- The patient has failed to respond clinically to outpatient therapy,
- Clinical follow-up within 72 hours of starting antibiotic treatment cannot be arranged.

Table 2: Criteria for CSF examination before treatment by stage of syphilis

Duration of infection	Criteria for CSF exam
All stages of syphilis	• All patients with neurologic, ophthalmic or otologic signs or symptoms • All patients who fail treatment • All infants and children
Latent syphilis or syphilis of undetermined age	• All patients with HIV infection • All patients with serum nontreponemal titer ≥1:32 unless the duration of infection is known to be <1 year • All patients with penicillin allergy unless the duration of infection is known to be <1 year
Tertiary syphilis	• All patients

Table 3: Cost of STD outpatient treatment regimens*

Regimen	Cost of regimen (in dollars)
Acyclovir 200 mg po 5 x q d x 10 d	39.11
Acyclovir 400 mg po bid	3.13
Acyclovir 800 mg po bid x 5 d	28.94
Azithromycin 1g po	27.37
Benzathine penicillin G, 2.4 million units IM	17.51
Cefixime 400 mg po	4.70
Cefoxitin 2 g IM plus Probenecid 1 g po	11.67
Ceftriaxone 125 mg IM (250 mg IM)	3.93 (7.85)
Ciprofloxacin 500 mg po	2.52
Clindamycin 450 mg po qid x 14 d	64.51
Doxycycline 100 mg po bid x 7 d (x 14 d)	0.85 (1.71)
Erythromycin base 500 mg po qid x 7 d	3.46
Metronidazole 2 g po	0.16
Metronidazole 500 mg po bid x 7 d (x 14 d)	0.56 (1.12)
Ofloxacin 400 mg po	2.53
Ofloxacin 400 mg po bid x 14 d	70.95
Podofilox 0.5% solution bid x 3d weekly x 4 weeks	41.28
Spectinomycin 2 g IM	12.29

* cost to San Francisco General through Health Services Purchasing Group (HSPG)

Table 4: STD treatments used at the SF STD Clinic, City Clinic 1994

Disease	Recommended regimens
Chlamydia	• Doxycycline 100 mg po bid x 7 d (Azithromycin 1g po*)
Gonorrhea	• Ceftriaxone 125 mg IM, **plus** Doxycycline 100 mg po bid x 7 d
Pelvic Inflammatory Disease	• Ceftriaxone 250 mg IM **plus** Doxycycline 100 mg po bid x 14 d
Mucopurulent cervicitis	• Gonorrhea treatment regimen
Nongonococcal urethritis	• Doxycycline 100 mg po bid x 7 d
Epididymitis	• Ceftriaxone 250 mg IM **plus** Doxycycline 100 mg po bid x 10 d
Trichomoniasis	• Metronidazole 2 g po
Bacterial Vaginosis	• Metronidazole 500 mg po bid x 7 d
Herpes simplex virus	• Acyclovir according to type of disease
Syphilis	
Uncomplicated	
Primary, Secondary, Early Latent	• Benzathine penicillin G, 2.4 million units IM
Late Latent, Undetermined Age	• Benzathine penicillin G, 7.2 million units IM, administered as 2.4 million units weekly x 3 weeks
HIV Infection	
Primary and Secondary	• Benzathine penicillin G, 2.4 million units IM
Latent with normal CSF exam	• Benzathine penicillin G, 7.2 million units IM, administered as 2.4 million units weekly x 3 weeks
Chancroid	• Ceftriaxone 250 mg IM
Human papillomavirus	• Cryotherapy
Lymphogranuloma Venereum	• Doxycycline 100 mg po bid x 21d

* Used only for special circumstances where compliance may be an issue such as in adolescents or in clients who have a positive chlamydia test result and initially fail to return for treatment.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

9 WEEK PERIOD ENDING 01/01/94

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 44 THROUGH 52			TOTAL CASES REPORTED TO DATE		
	1991	1992	1993	1991	1992	1993
AIDS	326	313	464	2,051	1,866	4,806
AMEBIASIS	47	30	51	315	191	259
CAMPYLOBACTERIOSIS	111	96	88	788	695	625
CHANCROID	0	0	0	2	1	0
CHLAMYDIAL INFECTIONS	378	394	391	2,385	2,213	2,356
GIARDIASIS	49	40	71	314	256	347
GONORRHEA	586	502	339	3,377	2,814	2,206
H. INFLUENZAE INVASIVE DISEASE	7	0	1	19	10	16
HEPATITIS Type A	108	66	50	384	379	220
HEPATITIS Type B	13	8	8	80	75	75
HEPATITIS Non A - Non B	0	1	0	4	3	4
LISTERIOSIS	4	0	0	17	3	4
LYME DISEASE	1	1	0	4	3	2
MALARIA	1	5	1	8	14	14
MEASLES	0	0	0	3	1	4
MENINGOCOCCAL INFECTIONS	0	0	0	6	8	1
PELVIC INFLAMMATORY DISEASE	42	37	34	213	181	182
PERTUSSIS	0	2	0	5	5	4
RUBELLA	0	0	0	1	2	0
SALMONELLOSIS	46	50	20	198	213	200
SHIGELLOSIS	42	51	25	274	328	245
SYPHILIS, Total	105	20	18	675	329	149
SYPHILIS, Primary & Secondary	23	6	4	185	92	57
TUBERCULOSIS	60	61	55	336	355	356
TYPHOID FEVER	7	0	0	9	3	3

TOTAL DEATHS REPORTED THIS PERIOD	1,330	1,382	8,326	8,321
Deaths from pneumonia and influenza	4	57	135	180
Medical Examiner cases	268	248	1,544	1,493
Drug-related cases	72	47	316	300
Cocaine-related cases	47	22	167	147

CITY AND COUNTY OF SAN FRANCISCO
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Vol. 10, Nos. 3/4 March/April 1994

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

9 Mortality Among San Francisco Residents, 1991-2
17 California County Health Status Profiles Report

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Mortality Among San Francisco Residents, 1991-2

Regular review of mortality data is an important part of public health surveillance. The identification of the major causes of death and of population groups at high risk provides a broad perspective on health problems in the community, leads for epidemiologic research, and opportunities for improved preventive and clinical services.

The purpose of this report is to describe an overview of the mortality of San Francisco residents in 1991 and 1992. (Instructions for obtaining sets of the detailed mortality tables, which are not presented here, are included at the end of the report). To estimate the increased life expectancy lost from deaths at younger ages, we have calculated years of potential life lost (YPLL's) (1).

METHODS. Computerized death certificate data sets were obtained from the California Department of Health Services, Data Retrieval and Analysis Section, covering all certified deaths of San Francisco residents. Certificates of death for residents who died outside of the county and/or state were included in the analysis.

Data included age, gender, race/ethnic group, and coded cause of death. Racial/ethnic groupings included White, African-American, Latino (Hispanic), and Asian/other.

International Classification of Diseases, Ninth Revision (ICD-9) codes for the underlying cause of death from the death certificate were classified into major diagnostic groupings. The grouping for cause of death was identical to that used by the State of California (2). Due to new AIDS classification categories instituted in 1987, cause of death data are not strictly comparable with those of previous years.

Mortality rates for 1991 and 1992 were calculated using as denominators San Francisco population projections of the California Department of Finance based on the 1990 census. Mortality rates were age-adjusted by the direct method using the 1980 California population as the standard.

YPLL's were calculated by subtracting ages at death from 75. (Deaths at 75 years or older do not contribute to YPLL's.)

RESULTS. During 1991 and 1992 respectively, 8345 and 8143 San Francisco residents died. Table 1 presents the ten leading causes of death by gender. Over all, cardiovascular disease (CVD) was the most common (27% in 1992), followed by cancer (20%), and AIDS (15% [females-1%, males-24%]). When all deaths due to injuries are combined (including unintentional injuries, homicide, and suicide), they accounted for 7% of the total.

Among males, the continuing increase in AIDS deaths and the decline in CVD resulted in AIDS becoming in 1992 the most common cause of death (Figure 1a). Figure 2 shows the age-specific mortality rates among males from AIDS from 1987 to 1992. Rates for the 25-44 year old groups plateaued, while the rates for the older

age-groups continued to increase.

Among females, the leading causes of death were CVD (33% in 1992), cancer (22%), and stroke (10%), from which mortality remained stable 1987-92 (Figure 1b). Figure 3a shows that among female cancer deaths in this period, lung cancer was the leading cause, followed by breast and colon. Among male cancer deaths, lung cancer remained foremost (Figure 3b).

Tables 3a and 3b show age-adjusted cause-specific mortality rates by race/ethnicity for females and males, respectively. The rates were higher among males than females for almost all categories, and were highest among African-Americans for almost all categories except AIDS among males. Stroke death among Asian-American/Other females and injury death rates among Latino males were higher than White rates. (Among males, because mortality rates from AIDS were highest in 35-54 year olds, age-adjustment reduced the rate from AIDS below that from CVD).

YPLL's among males accounted for 82% of the total (Table 2), primarily because of AIDS, which represented 47% of the male and 39% of the overall total YPLL's. Injuries (including unintentional, homicide, and suicide) represented 16% of total YPLL's. Among females, cancer accounted for 26% of total YPLL's.

EDITORIAL NOTE. AIDS became the most common cause of death among males overall in San Francisco in 1992, representing another milestone in the epidemic. Among all residents, AIDS accounted for 15% of deaths and 39% of potential years lost before age 75. These findings indicate the magnitude of the impact on our population.

The major limitation associated with using death certificate based data for assessing mortality is cause of death misclassification. In some cases, complete information is not available to the clinician filling out the certificate. There also may be inconsistencies among reporting clinicians because of unfamiliarity with guidelines for reporting cause of death. However, it is unlikely that there was sufficient misclassification to substantially alter the major findings.

For example, a study of mortality among the San Francisco City Clinic cohort found that AIDS was reported as the underlying cause in 1063/1194 (89%) of death certificates of males who had been diagnosed with AIDS or whose stored blood samples were HIV-positive (3).

Caution in interpretation of the race/ethnicity differences in mortality is appropriate. Classification of these variables, especially ethnicity, on death certificates is imprecise. Also, the substantial differences in mortality rates by race/ethnicity are confounded by socio-economic status, for which data are not available.

A limitation in restricting analysis to the underlying cause of mortality is that contributory causes are not considered. For example, the impact of diabetes is underestimated because diabetes is usually listed as a contributory cause on death certificates (if listed at all). Other important examples are smoking and alcohol/drug abuse. Epidemiologic studies have established these as preeminent causes of premature and preventable mortality.

Another limitation in using mortality analysis to assess community health status is that many diseases and health problems contribute to morbidity and disability, though not substantially to mortality. Examples include arthritis, lead poisoning, and sexually transmitted diseases (other than Hepatitis B and HIV). Other approaches to surveillance for these health problems and for indicators of quality of life are more appropriate.

Some diseases, such as HIV infection, have a long incubation period between onset and mortality. Earlier markers such as case reports or population surveys to identify asymptomatic cases are preferable to mortality data for disease tracking and control. Indeed, while AIDS mortality continued to increase through 1992,

AIDS case reports in San Francisco have started to decline (4).

The purpose of public health surveillance is to provide information for action. The magnitude of the AIDS epidemic in San Francisco described in this mortality report calls for renewed efforts to assure adequate clinical and humanitarian services for HIV-infected persons, and to prevent further transmission.

The major chronic diseases, such as heart disease and cancer, also merit expanded public health interventions for prevention and control. Behavior changes including regular physical activity, healthy diet, and elimination of smoking, alcohol, and drug abuse have the greatest potential to reduce premature mortality from chronic diseases. In addition, patient education and preventive services for which effectiveness has been demonstrated, such as mammography and Pap smears, deserve systematic delivery, especially to high risk groups.

The potential years of life lost results also underscore the seriousness of the injury problem (5). Community efforts to prevent unintentional injury and violence would benefit from additional health education and policy initiatives. And we plan further epidemiologic investigations to identify more precisely high risk populations in San Francisco and effective approaches to prevention.

ACKNOWLEDGMENTS

We are grateful to the clinicians who filled out the death certificates, and to the statistical personnel in San Francisco and Sacramento who classified, compiled, and managed the data.

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5. San Francisco Department of Public Health and The San Francisco Injury Center. Profile of Injury in San Francisco. March, 1994.

To obtain copies of the complete mortality tables for 1991 and 1992 for San Francisco please send a written request and a self-addressed mailing label to: Editor, Epidemiologic Bulletin, Bureau of Epidemiology and Disease Control, 101 Grove Street, Rm. 402, San Francisco CA. 94102. We are unable to handle phone requests due to staff shortages.

Table 1. Mortality by Cause and Gender
San Francisco, 1991-1992

Cause of Death	Females		Males		Totals	
	1991	1992	1991	1992	1991	1992
Diseases of the heart	1068	1070	1189	1094	2257	2164
Malignant neoplasms	832	723	878	875	1710	1598
AIDS	19	26	1152	1195	1171	1221
Cerebrovascular disease	313	327	246	230	559	557
Pneumonia and Influenza	190	178	180	166	370	344
Injuries	96	84	215	214	311	298
Pulmonary Disease	111	129	167	128	278	257
Suicide	34	40	112	103	146	143
Diabetes	58	54	54	49	112	103
Drug Overdose	11	21	37	75	48	96
Other	621	559	762	803	1383	1362
Total	3353	3211	4992	4932	8345	8143

Table 2. Years of Potential Life Lost* by Cause of Death and Gender
San Francisco, 1992

Cause of Death	Females		Males		Total	
	Years	%	Years	%	Years	%
AIDS	911	5%	40006	47%	40917	39%
Cancer	5021	26%	7552	9%	12573	12%
CVD	2154	11%	6508	8%	8662	8%
Injuries	1624	9%	6640	8%	8264	8%
Perinatal **	1589	8%	3522	4%	5111	5%
Homicide	539	3%	3516	4%	4055	4%
Suicide	911	5%	3103	4%	4014	4%
Liver	495	3%	2300	3%	2795	3%
Other	5806	30%	12038	14%	17844	17%
TOTAL	19050	100%	85185	100%	104235	100%

* Based on 75 year life expectancy.

** Includes Sudden Infant Death Syndrome and Congenital Anomalies.

Table 3a. Age-Adjusted Mortality Rates (per 1,000) by Cause and Race
San Francisco, 1992

Cause of Death	Females				
	White	Latino	Af/Am	As/Oth	Total
Diseases of the heart	1.7	0.9	2.4	1.0	1.5
Malignant neoplasams	1.5	0.8	2.0	0.8	1.3
AIDS	0.1	0.1	0.2	*	0.1
Cerebrovascular disease	0.4	0.3	0.9	0.5	0.5
Pneumonia and Influenza	0.3	0.1	0.3	0.2	0.3
Injuries	0.2	0.1	0.3	0.1	0.2
Pulmonary disease	0.3	0.1	0.2	0.1	0.2
Drug Overdose	0.1	0.0	0.1	0.0	0.1
Suicide	0.1	**	0.1	*	0.1
Chronic liver disease	0.1	0.1	0.2	***	0.1
Other	0.9	1.3	1.8	0.9	1.0
Total	5.8	3.8	8.4	3.5	5.2

*.01 **.03 ***.04

Note: The California 1980 population was used as the standard.

Table 3b.

Cause of Death	Males				
	White	Latino	Af/Am	As/Oth	Total
Diseases of the heart	3.2	2.0	4.0	1.8	2.8
Malignant neoplasams	2.4	1.4	3.7	1.8	2.2
AIDS	3.5	1.6	2.4	0.3	2.4
Cerebrovascular disease	0.6	0.5	0.9	0.5	0.6
Pneumonia and Influenza	0.4	0.3	0.6	0.4	0.4
Injuries	0.5	0.6	0.9	0.3	0.5
Pulmonary disease	0.4	0.2	0.2	0.3	0.3
Drug Overdose	0.2	0.2	0.3	**	0.2
Suicide	0.4	0.2	0.2	0.1	0.2
Chronic liver disease	0.3	0.3	0.4	0.1	0.2
Other	1.9	1.3	4.1	1.2	1.9
Total	13.8	8.6	17.5	6.8	11.7

Figure 1a. Leading Causes of Death, San Francisco, 1987-1992

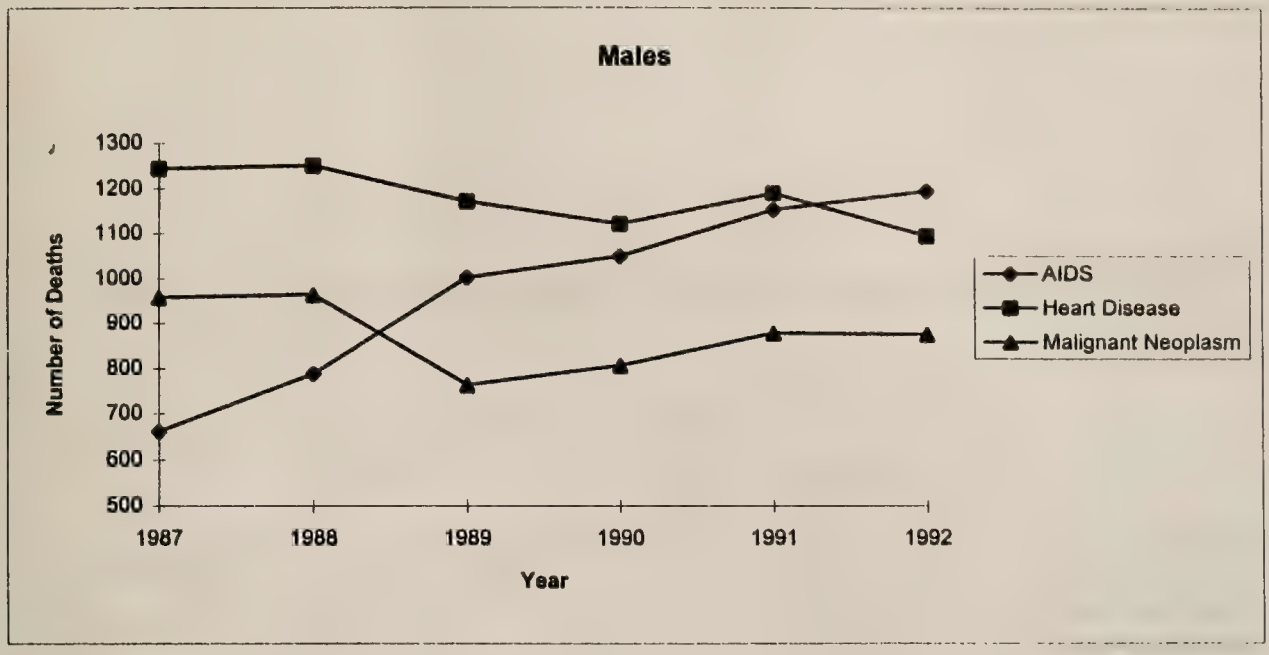
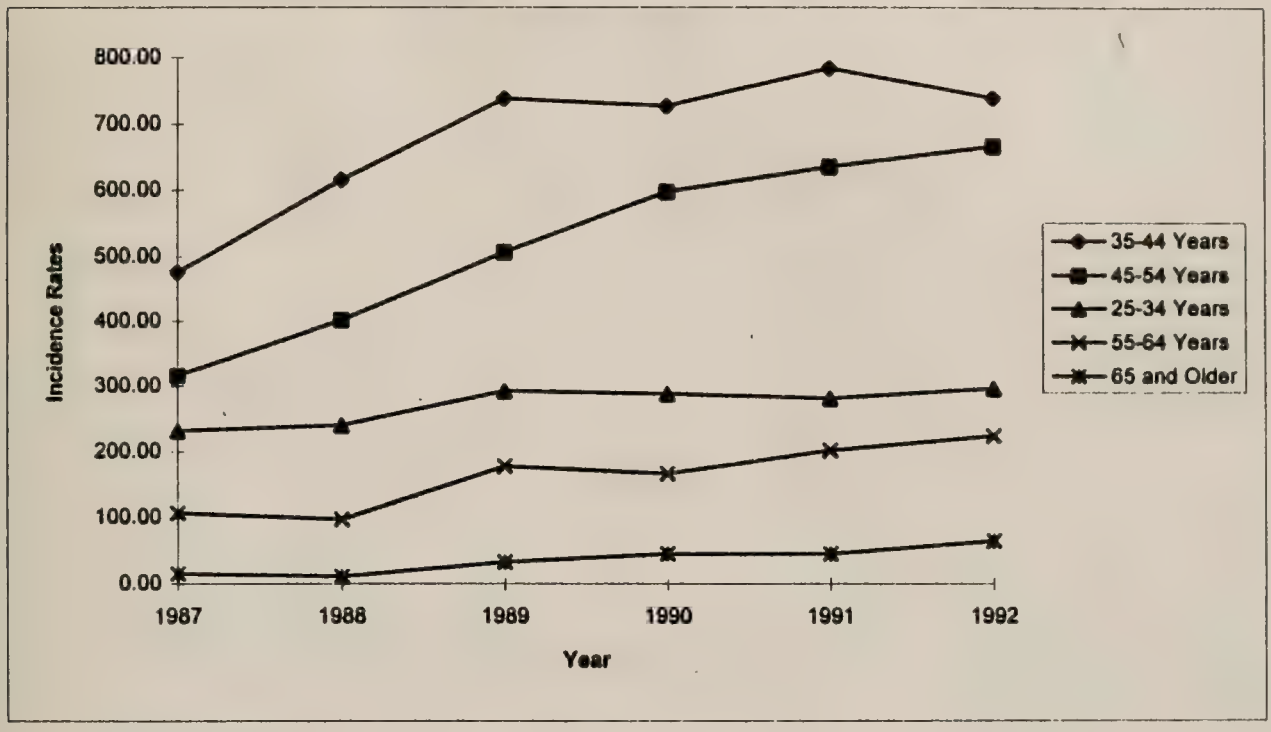


Figure 1b.

Figure 2. AIDS Age-Specific Mortality Rates, San Francisco Males, 1987-1992



per 100,000.

Figure 3a. Cancer Mortality by Type, San Francisco 1987-1992

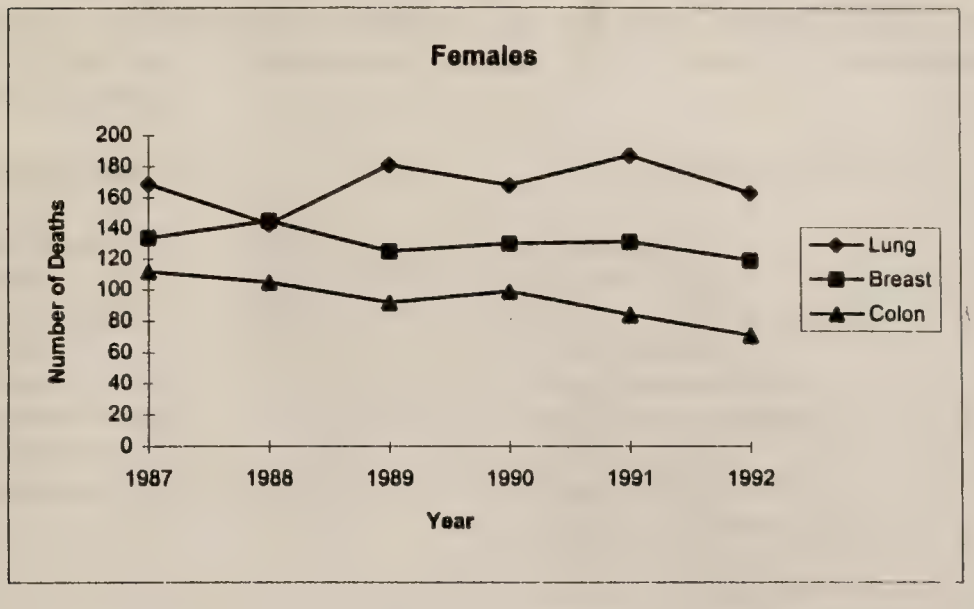
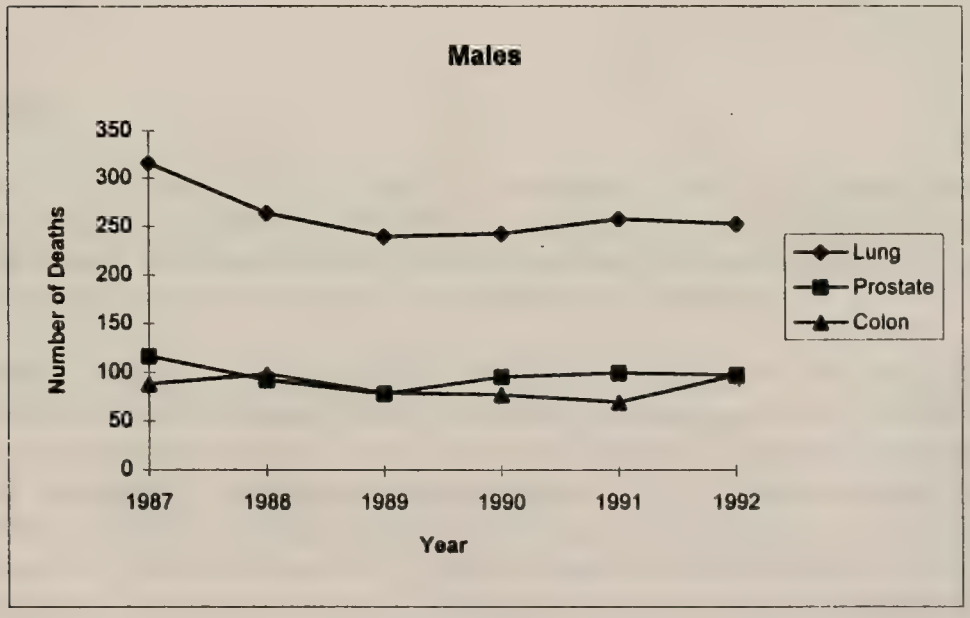


Figure 3b.



California County Health Status Profiles Report

The Report was announced on April 4. Three year average (usually 1990-2) rates for selected health status indicators by county are compared to the overall state rates and the Year 2000 National Objectives. As expected, San Francisco rates are high for indicators of health problems concentrated in urban areas. SF age-adjusted rates (per 100,000) which differ substantially from California are highlighted:

SF Lower than CA		SF Higher than CA	
Motor Vehicle Mortality	**10 / 6**	**Total Mortality**	**637 / 480**
Homicide Mortality	12.7 / 13.1	**Suicide Mortality**	**15 / 11**
Breast Cancer Mortality	2 0.6 / 21.1	Unintentional Injury Mortality	33 / 29
Heart Disease Mortality	110 / 111	Cancer Mortality	128 / 123
Measles Incidence	**2 / 16**	Lung Cancer Mortality	35.5 / 34.6
Asian/Other Infant Mortality	6.9 / 7.1	**Drug Related Mortality**	**18 / 7**
White Infant Mortality	6.4 / 7.2	Stroke Mortality	31 / 28
Births to Adolescents	**3.2 / 4.5**	**AIDS Mortality**	**312 / 33**
% Late Prenatal Care	23 / 27	**Tuberculosis Incidence**	**47 / 17**
		Syphilis Incidence	**28 / 10**
		Overall Infant Mortality	8.1 / 8.0
		African Am Infant Mortality	17.9 / 16.6
		% Low Birth Weight Infants	6.9 / 5.8
		% Poverty less than 18 years	18.6 / 18.2

Editorial Note:

The low motor vehicle mortality in SF is typical of urban areas. The low SF measles rate is due, at least in part, to the Department of Public Health's aggressive contact investigation program. Despite the problem of homelessness among African American women of childbearing age in SF, the infant mortality rate here is only slightly higher than that of California.

The total mortality excess in SF is largely due to the AIDS epidemic here. The excess in suicide and drug related mortality deserves additional epidemiologic investigation and public health intervention. The tuberculosis excess is due to the large number of SF residents with AIDS or who are recent immigrants from countries with high rates of TB. SF has been among the top 10 cities in tuberculosis incidence for many years. The fact that our incidence has not sky-rocketed, as in some other cities, is an indication of the success of our TB Control program. A syphilis outbreak occurred in San Francisco in 1990. Since then, successful sexually transmitted disease control efforts have significantly reduced the syphilis rate in SF to those in other urban areas of California.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

8 WEEK PERIOD ENDING 2/26/94

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 1 THROUGH 8			TOTAL CASES REPORTED TO DATE		
	1992	1993	1994	1992	1993	1994
AIDS	265	1,338	427	265	1,338	427
AMEBIASIS	37	35	38	37	35	38
CAMPYLOBACTERIOSIS	95	101	68	95	101	68
CHANCROID	0	0	0	0	0	0
CHLAMYDIAL INFECTIONS	326	211	346	326	211	346
GIARDIASIS	48	28	69	48	28	69
GONORRHEA	485	286	276	485	286	276
H. INFLUENZAE INVASIVE DISEASE	0	3	1	0	3	1
HEPATITIS Type A	78	36	20	78	36	20
HEPATITIS Type B	21	11	9	21	11	9
HEPATITIS Non A - Non B	0	2	0	0	2	0
LISTERIOSIS	1	0	0	1	0	0
LYME DISEASE	0	1	0	0	1	0
MALARIA	0	1	1	0	1	1
MEASLES	1	0	0	1	0	0
MENINGOCOCCAL INFECTIONS	2	0	0	2	0	0
PELVIC INFLAMMATORY DISEASE	25	21	27	25	21	27
PERTUSSIS	1	0	1	1	0	1
RUBELLA	0	0	0	0	0	0
SALMONELLOSIS	19	24	26	19	24	26
SHIGELLOSIS	46	34	30	46	34	30
SYPHILIS, Total	90	25	13	90	25	13
SYPHILIS, Primary & Secondary	16	12	7	16	12	7
TUBERCULOSIS	51	57	41	51	57	41
TYPHOID FEVER	2	0	0	2	0	0

TOTAL DEATHS REPORTED THIS PERIOD	1,562	1,431		1,562	1,431
Deaths from pneumonia and influenza	32	63		32	63
Medical Examiner cases	269	265		269	265
Drug-related cases	50	55		50	55
Cocaine-related cases	27	31		27	31

CITY AND COUNTY OF SAN FRANCISCO
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Bureau of Epidemiology and Disease Control

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

19 Receipt of Recommended Medical Care in HIV-Infected and At-Risk Persons
25 AIDS Office Publications

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Receipt of Recommended Medical Care in HIV-Infected and At-Risk Persons

Introduction

Timely receipt of medical care can reduce morbidity associated with human immunodeficiency virus (HIV) infection, slow disease progression, and decrease transmission of HIV and other infectious diseases. For persons who are at risk of acquiring HIV, preventive medical care contributes to good health and can deter acquisition of infection.

Recommendations for screening tests, vaccination, prescribing antiviral and viral prophylactic therapy, and counseling HIV-infected and at-risk persons have been established (1-11). Although clinician consensus is high regarding administration of many recommended medical interventions to HIV-infected patients (12), in practice clinicians may fail to perform these interventions. Medical chart review of HIV-infected ambulatory patients seen in a University setting revealed inconsistent delivery of recommended screening tests and vaccinations (13). In addition, surveys of clinicians have found that behavioral risk assessment of infected and at-risk persons is low, recommendation of HIV antibody testing to at-risk persons occurs infrequently, and risk reduction and safe sex counseling are variable (12, 14-17).

We evaluated receipt of recommended medical care in HIV-infected and at-risk public health clinic patients.

Methods

Subjects and Procedures. Patients attending Tom Waddell Clinic and District Health Center #2 were sampled from July through December, 1992. Both sites serve a large number of uninsured persons, people of color, women, and substance users. Patients were eligible for study inclusion if they were between 18 and 45 years old, spoke English or Spanish, were San Francisco Bay Area residents, and reported any HIV risk behaviors or exposures (HIV risk was broadly defined and included having sex of any kind, injecting drugs, receiving a transfusion, or occupational exposure since 1978).

Medical care providers at both sites referred all eligible patients to an on-site interviewer for recruitment and written informed consent. Patients were interviewed during or soon after the clinic visit and were compensated $10 for their time.

Survey instrument. Patients were asked about sociodemographics, HIV risk behaviors, health care use, and receipt of HIV antibody testing and counseling. All recruitment materials and instruments were translated and back-translated into Spanish and administered by a bilingual interviewer when requested. Interviews took 10 to 15 minutes.

Medical records were abstracted to determine receipt of screening tests, vaccines, and prophylaxis covering 6 months or more of care at the site; charts of patients in care for less than six months were abstracted prospectively. Ensuring a 6 month minimum of follow-up allowed ample time to perform all interventions. Interventions were coded as having been received, whether at

the study site or elsewhere, if they were noted in the medical record.

Recommended care followed guidelines applicable at the time the study was conducted. For HIV-infected and at-risk persons interventions included annual screening for syphilis (RPR) and tuberculosis (PPD), screening for hepatitis B and vaccination of susceptibles, a tetanus booster every 10 years, safe sex counseling, and, for women, annual pap, pelvic, and breast exams in addition to the above interventions.

For HIV-infected persons recommended care included receipt of CD4+ T-lymphocyte testing every 6 months, AZT if any CD4 count was under 500 cells, PCP prophylaxis if any CD4 count was under 200 cells, pneumococcal and influenza vaccine, and counseling on feelings about HIV infection and AIDS. For at-risk persons, receiving a recommendation for HIV-antibody testing from a clinician was also evaluated.

Results

Participants. Of the 276 eligible patients recruited, 87% agreed to participate. Eight percent of the interviews were conducted in Spanish. Charts were located and abstracted for 98% of the participants, resulting in a sample of 234 persons. Sampling reflected patient volume at each site: 20% of the participants were patients at District Health Center #2, and 80% were patients at Tom Waddell Clinic. Participation rates were the same at the two sites. Half of the participants were seen at an HIV specialty clinic at the time of interview, other patients were seen in primary care or general medicine clinics (16%), Latino clinic (8%), women's clinic (11%), or an urgent care clinic (15%).

The mean age of participants was 35 years (Table 1). Most of the patients were male. Non-whites accounted for approximately half the sample. More than half of the participants had very low incomes and two thirds of the participants were unemployed, retired, or disabled for most of the previous year. Sixteen percent of the patients lived in a half-way house or shelter; 8% were homeless.

Two thirds of the sample had no medical insurance, and, with the exception of two persons, the remaining individuals had Medicaid or Medicare coverage. According to self-report, 133 (57%) of the patients were infected with HIV. HIV-infected persons knew they were seropositive a mean of approximately three and a half years. Overall, gay/bisexual male injection drug users constituted the largest proportion of HIV-infected persons. Most patients had made at least one visit to a physician in the year prior to interview; on average they saw a physician every six weeks. Self-reported use of medical care was the same for HIV-infected and at-risk persons.

Receipt of recommended care. Receipt of general preventive care for HIV-infected and at-risk persons was low (Table 2). Most interventions were received by less than half, and almost all by less than two thirds, of the patients. Receipt of screening tests for syphilis and tuberculosis was low, as was receipt of appropriate care for hepatitis B and tetanus boosters. Safe sex counseling was received by a larger proportion of patients according to self-report. Interventions specific to women were infrequently administered.

HIV-infected persons were significantly more likely than at-risk persons to have received general preventive care, with the exception of interventions applicable to women. For the 47 women in the study, those who were HIV-infected appeared less likely than at-risk women to receive PAP tests, pelvic and breast examinations. Differences were not statistically significant, but the number of women in the study was small.

Overall, HIV-specific care was high. Most HIV-infected patients had received a CD4 count in the previous 6 months. Among persons eligible for AZT prophylaxis (a CD4 count under 500), most had taken AZT; only three eligible persons refused AZT. Most persons eligible for PCP prophylaxis (a CD4 count under 200 at some

time) had taken it; no eligibles refused PCP prophylaxis. Many infected persons received vaccination for pneumococcal infection. Receipt of influenza vaccine was low compared to other HIV-specific interventions: of patients visiting the clinic during the time that influenza vaccination was offered, half had received the vaccine. Three quarters of HIV-infected persons reported that a medical care provider had discussed feelings about HIV and AIDS with them.

Care specific to at-risk persons was inconsistent. Less than half of at-risk persons reported that a health care provider had recommended HIV-antibody testing. Those who had a test recommended were significantly more likely to self-report having received HIV-antibody testing than persons who did not have antibody testing recommended (76% vs. 42%, respectively).

Editorial Comment. Assessing receipt of recommended medical care for HIV-infected and at-risk persons is an important first step toward improving health care delivery and reducing HIV-associated morbidity. Such evaluations are especially important in populations that may have limited resources and difficulties accessing medical care. Adherence to recommended care guidelines applicable to both HIV-infected and at-risk persons has not been evaluated. Given the discordance between receipt of care based on clinician report and patient chart review, care delivery should be based on the latter. This is the first study to assess receipt of recommended care in HIV-infected public clinic patients and to include a comparison group of at-risk patients in the same clinics.

We found low rates of delivery of recommended medical care to HIV-infected and at-risk persons. HIV-infected persons were consistently more likely to receive recommended care than at-risk persons, with the exception of care specific to women. Care specific to women was particularly inconsistent. Surprisingly, HIV-infected women were somewhat less likely to receive screening tests than at-risk women.

In contrast, receipt of HIV-specific interventions was high, with the exception of flu vaccinations. Receipt of prophylaxis was higher than screening tests or vaccinations, again with the exception of flu vaccination. Care specific to at-risk persons, on the other hand, was low: relatively few at-risk persons received a recommendation to seek HIV antibody testing.

In general, it appears that preventive care is infrequently delivered. Despite high perceived efficacy of syphilis and tuberculosis screening for HIV-infected persons (18), patients in our study were not regularly screened for these diseases. Similar to another patient-based study (13), we found relatively high rates of compliance with recommended prophylaxis and comparatively low rates of compliance with recommended screening tests and vaccinations for HIV-infected individuals. High perceived efficacy of PAP tests (18), and high clinician consensus on performing annual PAP tests and pelvic exams (12) in HIV-infected persons is at odds with the very low receipt of these interventions by the women in our study.

Consistent with our findings, clinician surveys have found moderate to high self-reported provision of safe sex counseling to HIV-infected patients (12,17), and low levels of providing safe sex counseling and encouraging HIV-antibody testing to other patients (15,17). According to a national survey, only 15% of adults making medical care visits in the past 5 years had discussed AIDS with a physician; 72% of persons discussing AIDS had initiated the conversation (19). The greater likelihood of receiving an HIV-antibody test in at-risk persons who have had the test recommended by a clinician highlights the importance of this intervention in reducing HIV transmission.

We recognize several limitations of this study. Our results represent two public clinics and may not be generalizable to other settings. However, receipt of medical care in San Francisco likely exceeds that in other parts of the country.
Measuring receipt of care is subject to some potential pitfalls, and reflects a variety of site, provider, and patient characteristics. Clinic guidelines and resources, individual differences in

clinician practices, and patient behavior all play a role in the delivery of medical care. Failure of patients to return for PPD readings may account for the low levels of tuberculosis screening. Low levels of hepatitis B care are probably due to limited resources and the lack of availability of hepatitis B vaccine for most of the study period. The small proportion of women receiving PAP tests, pelvic and breast exams, especially in infected women, may be due to difficulties experienced by women in accessing medical care or incomplete understanding of the natural course of HIV infection in women on the part of clinicians (11). Lack of clinician consensus regarding the efficacy of various interventions may also account for inconsistent receipt of care. Available data suggest that efficacy of hepatitis B, influenza, and pneumococcal vaccines for HIV-infected persons is uncertain (18) and this may be reflected in the relatively low receipt of influenza vaccine observed in our study. Recall bias may account for some of the low receipt of counseling for at-risk persons, although the effect is probably small given other study findings (12, 15, 17, 19). Clearly, delivery of recommended medical care represents a balance between resources, clinical judgement, and patient behavior.

This study points to the very high levels of adherence to recommended care guidelines for HIV-specific interventions and relatively low adherence to interventions that prevent morbidity in HIV-infected and at-risk persons. Clinicians are extremely successful in treating disease, but less consistently perform screening tests and vaccinations. Counseling of at-risk persons, an important aspect of prevention, is underutilized. Opportunities to prevent morbidity and HIV transmission are being missed. Concerted efforts to identify barriers to delivering recommended care and improve adherence to existing guidelines are needed.

Reported by: Research and Prevention Branches, AIDS Office

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Table 1. Patient Characteristics

	All (N=234)	HIV-infected (N=133)	At-risk (N=101)
Mean age (± SD)	35 (±6)	35 (±6)	35 (±7)
% Male	80	92	64
Race/ethnicity			
% White	48	63	28
African-american	31	26	39
Latino	13	5	23
Other	8	6	10
% Monthly income < $800	61	53	72
% Employed (Full/part-time)	36	32	42
% Health insurance	35	44	23
Risk behaviors			
% Gay/bisexual male IDU	35	58	4
Gay/bisexual male	20	27	11
Het. male IDU, female IDU	17	11	26
Heterosexual male, female	28	4	59
Mean number of physician visits (past year) (± SD)	8 (±11)	9(±10)	7(±11)

Table 2. Receipt of Recommended Care

Intervention	Eligibility criteria	HIV + Elig. N	HIV + % Received	At-risk Elig. N	At-risk % Received
General preventive care					
RPR	Past yr.	133	54	101	34*
PPD	Past yr. or PPD+	133	56	101	39*
Hepatitis B care	Antigen + or vaccine	133	64	101	4**
Tetanus booster	Past 10 yrs.	133	38	101	21*
Safe sex counseling	Since HIV+, Ever	133	82	100	67*
Women					
PAP	Past yr.	11	36	36	47***
Pelvic	Past yr.	11	36	36	44***
Breast exam	Past yr.	11	27	36	33***
HIV-specific care					
CD4 Count	All HIV+'s	133	85		
AZT	CD4 count < 500	102	87		
PCP prophy.	CD4 count < 200	34	94		
Pneumovax	All HIV+'s	133	81		
Influenza vaccine	Visit 9/15/92 -1/15/93	107	50		
Discuss feelings	Since HIV+	133	74		
At-risk care					
Recommend HIV testing	All at-risk			100	40

* $p \leq .01$; ** $p \leq .001$; *** NS

AIDS Office Publications

The newest publication by the AIDS Office, San Francisco Department Of Public Health, is the AIDS Office Connection. Currently in its third monthly issue, this bulletin was created in attempt to keep contractors as up-to-date as possible on issues regarding contracting, fiscal practices, new programs, changes in models of care, and general announcements from the AIDS/HIV community. Although the AIDS Office Connection is published by AIDS Office staff, community providers are encouraged to submit articles. Submissions for the "Contractors Calendar" including announcements of new services or schedules for provider workshops are welcomed. The newsletter is particularly useful for individuals and contractors new to the San Francisco HIV Continuum of Services system.

To receive a copy of current or past issues of the AIDS Office Connection, please call 554-9028.

The following publications are also available from the AIDS Office. Please call the telephone number listed after the publication:

1. Voices of Experience: A study of client experience with HIV services in San Francisco. Call 554-9028.

2. Seeking HIV Testing, Receiving an HIV- Positive Result, and Accessing Early Intervention: Results from two focus groups of individuals with HIV/AIDS. Call 554-9040.

3. Monthly Statistical Report. Call 554-9050.

4. HIV Seroprevalence Report (local). Call 554-9050.

5. Estimates of the Number of Persons with HIV in San Francisco by Race/Ethnicity. Call 554-9050.

6. The Young Men's Study: HIV-1 Seroprevalence and risk behaviors among young men who have sex with men. Call 554-9050.

7. Projections of the AIDS Epidemic in San Francisco through 1997. Call 554-9050.

D Ref 616.9792 P9938

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

9 WEEK PERIOD ENDING 4-30-94

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 9 THROUGH 17			TOTAL CASES REPORTED TO DATE		
	1992	1993	1994	1992	1993	1994
AIDS	377	1,049	503	642	2,387	930
AMEBIASIS	49	38	45	86	73	83
CAMPYLOBACTERIOSIS	115	89	88	210	190	156
CHANCROID	0	0	0	0	0	0
CHLAMYDIAL INFECTIONS	445	634	439	771	845	785
GIARDIASIS	63	65	46	111	93	115
GONORRHEA	509	497	367	994	783	643
H. INFLUENZAE INVASIVE DISEASE	1	6	0	1	9	1
HEPATITIS Type A	97	42	32	175	78	52
HEPATITIS Type B	10	12	13	31	23	22
HEPATITIS Non A - Non B	0	1	0	0	3	0
LISTERIOSIS	1	4	0	2	4	0
LYME DISEASE	0	0	0	0	1	0
MALARIA	5	5	3	5	6	4
MEASLES	0	1	2	1	1	2
MENINGOCOCCAL INFECTIONS	3	1	0	5	1	0
PELVIC INFLAMMATORY DISEASE	29	43	21	54	64	48
PERTUSSIS	0	0	0	1	0	1
RUBELLA	2	0	1	2	0	1
SALMONELLOSIS	33	47	22	52	71	48
SHIGELLOSIS	45	34	24	91	68	54
SYPHILIS, Total	75	28	17	165	53	30
SYPHILIS, Primary & Secondary	20	10	8	36	22	15
TUBERCULOSIS	79	62	55	130	119	96
TYPHOID FEVER	0	0	1	2	0	1
TOTAL DEATHS REPORTED THIS PERIOD	1,466	1,361		3,028	2,792	
Deaths from pneumonia and influenza	25	36		57	99	
Medical Examiner cases	282	240		551	505	
Drug-related cases	55	40		105	95	
Cocaine-related cases	27	19		54	50	

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Vol. 10, Nos. 7/8 Aug./Sept. 1994

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

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Tuberculosis in San Francisco, 1993

In 1993, 356 new cases of active Tuberculosis (TB) were reported to the San Francisco Department of Public Health, an incidence rate of 49 per 100,000. This number is essentially unchanged from 1992 when 355 new TB cases were reported (Figure 1).

Annual case numbers have risen 32% since their nadir in 1984. Immigration, immunosuppression due to HIV, and social conditions (homelessness, incarceration, etc.) have all contributed substantially to Tuberculosis incidence in San Francisco.

Country of Birth: 1993 saw a substantial increase in the number of TB cases that occurred among the foreign-born, with a concomitant decrease in American-born cases (Figure 2). The percentage of patients with TB that were foreign-born had been steadily decreasing since 1980, with 57% of 1992 cases foreign-born. In 1993 the percentage of foreign-born rose to 67% (data not shown). Nationally, the proportion of new TB cases that are foreign-born has also increased, and in 1993 made up 29% of U.S. TB cases.

Age: The highest case rates of TB have been among persons older than 44 and this rate had been stable since 1984. 1993 saw an increase in this age group to 78 per 100,000 (Figure 3). The TB Incidence among 25-44 year-olds declined slightly in 1993. This may be a reflection of the aging of the HIV seropositive cohort in San Francisco. Cases of active TB declined among children less than 15 years of age. In 1993, there were 8 cases in children less than 15 years old.

Race/Ethnicity: Although case rates among Asian/Pacific Islanders had been decreasing from 1984 through 1990, the past 3 years have seen a gradual increase. The largest increase has been among ethnic Chinese, with 90 cases in 1993. In 1992 & 1993, the number of Filipino cases increased, reflecting the impact of Filipino veterans of W.W.II entering the country after being granted citizenship by the Immigration Act of 1990 (Table 1). Case rates among African-Americans have begun to decline, while non-Hispanic White and Hispanic case rates have remained fairly stable (Figure 4).

TB/HIV: In 1993, the surveillance case definition of AIDS was changed to include persons with a positive HIV test and active Tuberculosis at any site. The number of patients with TB who also have AIDS has increased steadily for more than a decade. In 1993, 85 patients with TB (24% of all reported cases) also had AIDS (Figure 1). In 72% of the 85 patients, TB was the first symptomatic manifestation of their immunosuppression. Of patients with the dual diagnosis of TB and AIDS, the majority are non-Hispanic White, (55%), with a median age of 38 years.

Drug Resistance: Of the total of 356 cases of active TB reported in 1993, 318 (89%) were culture positive and had susceptibility results available. Of these, 55 patient isolates were resistant to one or more drugs. Isoniazid was the drug to which resistance was most commonly found (12.5%), followed by Streptomycin (5%) then PZA (2.2%), Rifampin (1.5%), and

Ethambutol (0.3%). Thirty nine (12%) were resistant to a single drug. An additional 16 (5%) were resistant to 2 or more anti-tuberculosis agents. Resistance to both Isoniazid (INH) and Rifampin was seen in 3 patients. This pattern has been termed MDR-TB (multiple drug resistant Tuberculosis). All 3 patients were foreign-born.

Editorial Note: The incidence of TB in 1993 was essentially unchanged from 1992. Some shifts in the epidemiology in 1993 are noteworthy. 1993 saw a substantial increase in the number of foreign-born persons with TB, with much of this increase seen in Chinese and Filipino patients. 1993 also saw a shift to older ages among patients with TB, and a gratifying decrease in pediatric cases. Despite a small decline in the case rate for African-Americans, this rate remained substantially above the case rates for both Hispanic and non-Hispanic White patients.

While resistance to INH was seen in 12.5% of culture positive patients, the occurrence of MDR-TB with resistance to both INH and Rifampin has remained low (0.9%) in San Francisco.

Data nationwide on drug resistance in 1993 are not available, but a first quarter 1992 survey done by the CDC showed a 3.3% incidence of MDR-TB nationwide. The states with the highest percentage of MDR-TB cases were New York and New Jersey (12.0% and 5.8% of isolates, respectively). The percentage of MDR-TB isolates in California as a whole in this survey was 1.2%.

The prevention of Tuberculosis and MDR-TB requires ongoing, intensive public health efforts to ensure that patients with TB are found early in their disease and that treatment is both adquate and taken to completion.

For information about the diagnosis and treatment of Tuberculosis and Tuberculosis infection, contact :

TB Control Division of the San Francisco Department of Public Health,
SFGH, Ward 94,
1001 Potrero Avenue.
☎: (415) 206- 8524

Table 1. TB Cases in San Francisco by Ethnic/Racial Group, 1989-1993

	1989 (N=286)		1990 (N=334)		1991 (N=333)		1992 (N=355)		1993 (N=356)	
ETHNIC GROUP	#	%	#	%	#	%	#	%	#	%
Asian	139	49%	156	47%	161	48%	167	47%	187	53%
Chinese	74		76		77		75		90	
Filipino	43		47		46		60		61	
SE Asian	12		21		29		17		27	
Other	10		12		9		15		9	
White	65	23%	91	27%	67	20%	73	21%	62	17%
African Amer.	46	16%	51	15%	64	19%	65	18%	52	15%
Hispanic	31	11%	33	10%	34	10%	48	14%	48	13%
Other	5	2%	3	1%	7	2%	2	1%	7	2%

Figure 1. Cases of TB in San Francisco, 1980-1993

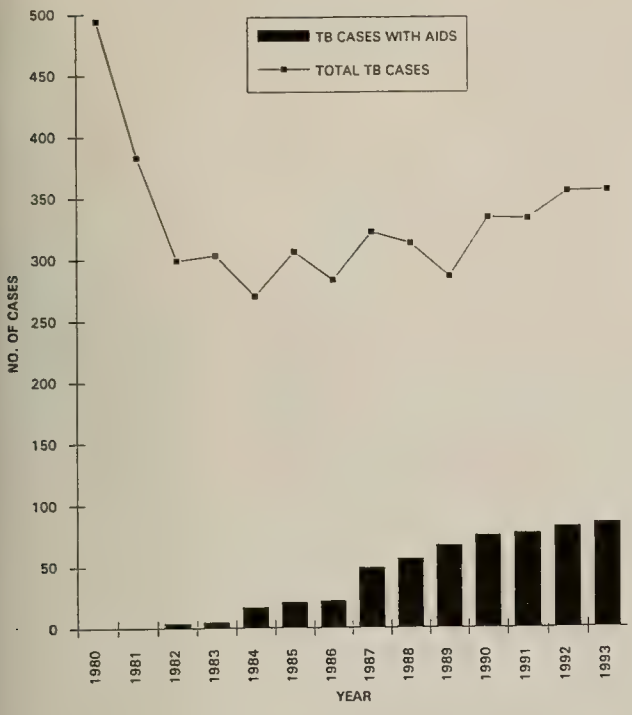

Figure 2. TB Cases in San Francisco by Country of Birth, 1980-1993

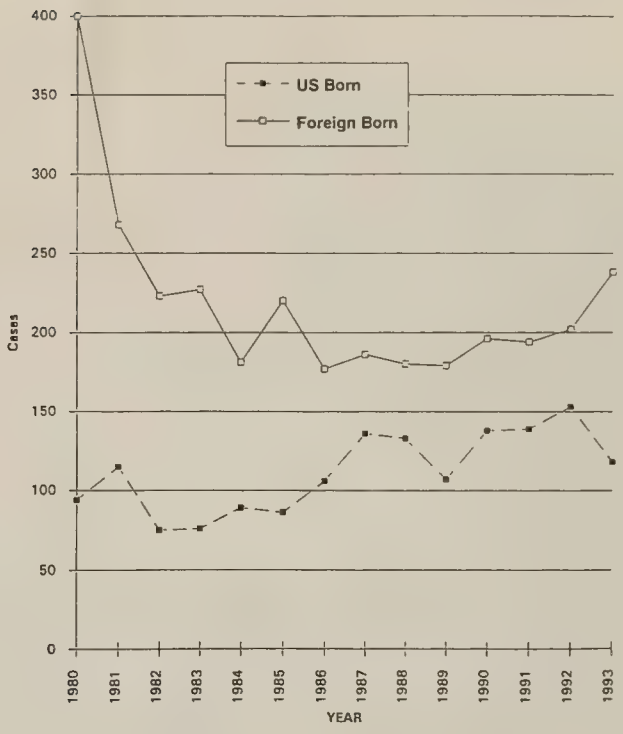

Figure 3. Rates of TB by Age Group, San Francisco, 1984-1993

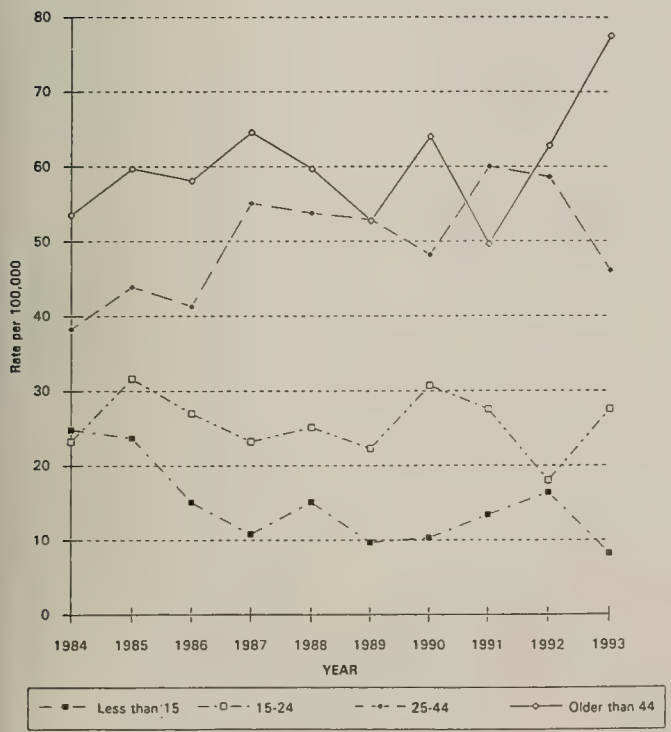

Figure 4. Rates of TB by Race & Ethnicity, San Francisco, 1984-1993

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

9 WEEK PERIOD ENDING 7/2/94

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 18 THROUGH 26			TOTAL CASES REPORTED TO DATE		
	1992	1993	1994	1992	1993	1994
AIDS	334	859	354	976	3,246	1,284
AMEBIASIS	33	29	48	119	102	131
CAMPYLOBACTERIOSIS	141	124	134	351	314	290
CHANCROID	0	0	0	0	0	0
CHLAMYDIAL INFECTIONS	360	384	599	1,131	1,229	1,384
GIARDIASIS	35	41	77	146	134	192
GONORRHEA	425	401	424	1,419	1,184	1,067
H. INFLUENZAE INVASIVE DISEASE	4	1	2	5	10	3
HEPATITIS Type A	58	30	33	233	108	85
HEPATITIS Type B	15	16	16	46	39	38
HEPATITIS Non A - Non B	0	1	0	0	4	0
LISTERIOSIS	1	0	0	3	4	0
LYME DISEASE	0	0	0	0	1	0
MALARIA	1	2	4	6	8	8
MEASLES	0	2	0	1	3	2
MENINGOCOCCAL INFECTIONS	1	0	0	6	1	0
PELVIC INFLAMMATORY DISEASE	42	29	18	96	93	66
PERTUSSIS	0	0	6	1	0	7
RUBELLA	0	0	0	2	0	1
SALMONELLOSIS	27	25	22	79	96	70
SHIGELLOSIS	41	39	32	132	107	86
SYPHILIS, Total	49	29	16	214	82	46
SYPHILIS, Primary & Secondary	17	16	10	53	38	25
TUBERCULOSIS	58	66	48	188	185	144
TYPHOID FEVER	0	1	1	2	1	2
TOTAL DEATHS REPORTED THIS PERIOD	1,418	1,316		4,446	4,108	
Deaths from pneumonia and influenza	18	1,247		75	223	
Medical Examiner cases	267	267		818	772	
Drug-related cases	45	53		150	148	
Cocaine-related cases	19	27		73	77	

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

31 Influenza Immunization Recommendations 1994-95
33 1994-95 Influenza Surveillance
33 S.F.D.P.H. Influenza Immunization Program

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Influenza Immunization Recommendations 1994-95

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Influenza vaccine for the 1994-95 season includes antigen against the influenza strains of A/Texas/36/91-like(H1N1), A/Shandong/9/93-like(H3N2), and B/Panama/45/90-like. This is different from the vaccine for 1993-94; any vaccine remaining from last year should be discarded.

Pharmaceutical companies are again producing vaccines using different manufacturing processes so that both split-virus vaccine and whole-virus vaccine will be available commercially. Because of the fewer side-effects associated with split virus vaccine that has been chemically treated to reduce the incidence of febrile reactions, only this preparation is recommended for persons less than 13 years of age. All vaccine used in the State of California Influenza Immunization Program for the 1994-95 season is of the split-virus type.

Target Populations. To maximize protection of high-risk persons, individuals at risk and their close contacts should be targeted in organized vaccination programs.

Groups at increased risk for influenza-related complications include:

1. Persons age 60 and older (California Program).
2. Residents of convalescent nursing homes and other chronic care facilities housing patients of any age with chronic medical conditions.
3. Adults and children with chronic disorders of the pulmonary or cardiovascular systems, including children with asthma.
4. Adults and children who have required regular medical follow-up or hospitalization during the preceding year because of chronic metabolic diseases including renal dysfunction, hemoglobinopathies, diabetes mellitus, or immunosuppression.
5. Children and teenagers (age 6 months - 18 years) who are receiving long-term aspirin therapy, and therefore may be at risk of developing Reyes Syndrome after an influenza infection.

Groups potentially capable of transmitting influenza to high-risk persons

Persons with subclinical or symptomatic infection who are attending high risk persons can transmit influenza infections to those persons. Certain high risk persons (e.g., the elderly, transplant recipients, or persons with HIV infection/AIDS) can have a decreased antibody response to influenza vaccine. Efforts to protect these individuals against influenza may be improved by reducing the chances for exposure from care providers that may expose them to influenza. Therefore, the following groups should be vaccinated:

1. Physicians, nurses, and other personnel in hospital and outpatient care settings who have extensive contact with high risk patients in all age groups, including infants.

2. Employees of convalescent nursing homes and chronic care facilities who have contact with residents.
3. Providers of home care to high risk persons (e.g., visiting nurses, volunteer workers).
4. Household members (including children) of high risk persons.

NOTE: Annual vaccination with inactivated Influenza Vaccine is considered the single most important measure in preventing or attenuating influenza infection and is strongly recommended for the above persons by the U.S. Public Health Service Advisory Committee on Immunization Practices (ACIP).

Vaccination of Other Groups

Pregnant Women. Pregnant women who have other medical conditions that increase their risks for complications from influenza should be vaccinated because the vaccine is considered safe for pregnant women- regardless of the stage of pregnancy. Thus, it is undesirable to delay vaccination of pregnant women who have high-risk conditions and who will still be in the first trimester of pregnancy when the influenza season begins.

Persons Infected with Human Immunodeficiency Virus (HIV). Limited information exists regarding the frequency and severity for influenza illness among HIV-infected persons, but reports suggest that symptoms may be prolonged and the risk for complications increased for some HIV-infected persons. Because influenza can result in serious illness and complications, vaccination is a prudent precaution and will result in protective antibody levels in many recipients. However, the antibody response to vaccine may be low in persons with advanced HIV-related illnesses; a booster dose of vaccine does not improve the immune response of these persons.

Additional Vaccination Recommendations

The immunological protection afforded by the influenza vaccine is short-lived and the season for influenza disease extends into the Spring. Therefore, it is recommended that influenza vaccine be given from mid-October of the influenza immunization year.

Schedule of Immunization by Dosage and Age

Age Group	Product	Dosage (ml)*	Number of Doses
6-35 months	Split virus only	0.25	1 or 2**
3-8 years	Split virus only	0.5	1 or 2**
9-12 years	Split virus only	0.5	1
Over 12 years	Whole or split virus	0.5	1

*Contains 15 micrograms each of A/Texas/36/91-like, A/Shandong/9/93-like, and B/Panama/45/90-like hemagglutinin antigens in each 0.5 ml.

**Two doses, approximately 4 weeks apart, are recommended for children less than age 9 years who are receiving influenza vaccine for the first time.

1994-1995 Influenza Surveillance

The San Francisco Department of Public Health Laboratory will accept throat cultures and acute and convalescent blood specimens to try to identify this season's prevailing flu strains. Should you encounter what you would consider to be likely cases of influenza among your patients, we encourage you to obtain throat swabs and blood specimens on these individuals.

We will provide you with viral swabs and transport media. To use our laboratory services, please call: Uzziel Prado, Influenza Program Coordinator at 554-2830 for more information.

For surveillance purposes, individuals likely to have influenza are those who have:

> Respiratory Disease - Any upper or lower respiratory tract condition suspected to be due to infection, such as URI, cough runny nose, sinusitis, rhinitis, sore throat, pharyngitis, tonsillitis, epiglottitis, tracheitis, croup, acute bronchiolitis, or pneumonia. Ear infections are not included unless there is associated respiratory illness.
>
> ***AND***
>
> Fever - Temperature 101°F or above.

San Francisco Department of Public Health Influenza Immunization Program

Flu shots are available from the San Francisco Department of Public Health to the following for a maximum fee of two dollars:

- Persons 60 years or older
- Persons with a CHRONIC DISEASE (including conditions such as heart, lung, or kidney disease, diabetes, anemias, HIV disease, asthma, and other similar illness)
- Medical and nursing personnel who have extensive contact with high-risk patients.

Flu shots are available to the above persons at the following sites:

Nov. 1 and Nov. 8, 8:30 - 11:00 a.m.
Nov. 3 and Nov. 10, 8:30 - 11:00 a.m.

At these Health Centers

#1	3850 17th Street	487-7500
#2	1301 Pierce Street	292-1300
#3	1525 Silver Avenue	715-0300
#4	1490 Mason Street	705-8500
#5	1351 24th Avenue	753-8100

Nov. 16, 8:30 - 11:00 a.m.
OMI Pilgrim Community Center
446 Randolph Street
753- 8100

Nov. 21 - Dec. 30
Monday - Friday, 1:00 - 4:00 p.m.
Tom Waddell Clinic
50 Ivy Street

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

9 WEEK PERIOD ENDING 9/3/94

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 27 THROUGH 35			TOTAL CASES REPORTED TO DATE		
	1992	1993	1994	1992	1993	1994
AIDS	310	613	336	1,286	3,859	1,620
AMEBIASIS	25	47	43	144	149	174
CAMPYLOBACTERIOSIS	131	116	109	482	430	399
CHANCROID	1	0	0	1	0	0
CHLAMYDIAL INFECTIONS	398	389	340	1,529	1,618	1,724
GIARDIASIS	38	82	66	184	216	258
GONORRHEA	443	377	379	1,862	1,561	1,446
H. INFLUENZAE INVASIVE DISEASE	5	4	0	10	14	3
HEPATITIS Type A	32	28	84	265	136	169
HEPATITIS Type B	10	9	13	56	48	51
HEPATITIS Non A - Non B	0	0	0	0	4	0
LISTERIOSIS	0	0	0	3	4	0
LYME DISEASE	2	1	1	2	2	1
MALARIA	2	4	3	8	12	11
MEASLES	0	0	0	1	3	2
MENINGOCOCCAL INFECTIONS	2	0	2	8	1	2
PELVIC INFLAMMATORY DISEASE	29	31	19	125	124	85
PERTUSSIS	2	0	0	3	0	7
RUBELLA	0	0	0	2	0	0
SALMONELLOSIS	32	35	39	111	131	109
SHIGELLOSIS	73	54	52	205	161	138
SYPHILIS, Total	55	26	10	269	108	56
SYPHILIS, Primary & Secondary	17	8	3	70	46	28
TUBERCULOSIS	53	58	45	241	243	189
TYPHOID FEVER	1	1	0	3	2	2
TOTAL DEATHS REPORTED THIS PERIOD	1,320	1,268		5,766	5,376	
Deaths from pneumonia and influenza	26	99		101	316	
Medical Examiner cases	225	239		1,043	1,011	
Drug-related cases	52	47		202	195	
Cocaine-related cases	31	25		104	103	

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Vol. 10, Nos.11/12 Nov./Dec. 1994

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

35 Prevention of Pneumocystis carinii pneumonia: Who is not receiving recommended prophylaxis?
40 Francis J. Curry National Tuberculosis Center, Training Program 1995

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Prevention of *Pneumocystis carinii* pneumonia: Who is not receiving recommended prophylaxis?

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INTRODUCTION. *Pneumocystis carinii* pneumonia (PCP) is the most common serious opportunistic infection associated with the acquired immunodeficiency syndrome (AIDS), affecting an estimated 75% of persons with the syndrome (1). Prophylaxis against PCP has been found to be one of the most effective preventive measures available to individuals infected with the human immunodeficiency virus (HIV) (2-4). Recommendations for the use of prophylaxis against PCP were first developed in 1989, and were updated in 1992 (5,6). Individuals whose CD4 counts are less than 200 cells per cubic millimeter, or less than 20% of total circulating lymphocytes, or who have had a prior episode of PCP, should receive one of the three currently recommended prophylactic medications. There are several treatment choices available if a patient is unable to tolerate a particular prophylactic medication.

Previous studies have shown that despite these well established recommendations, HIV-specific treatments are less likely to be received by the uninsured, racial and ethnic minorities, women, and individuals with a history of injection drug use (7-10). However, these studies were conducted among patients who were seeking medical care, or who were part of ongoing cohort studies examining the natural history of HIV disease, thereby limiting the ability to generalize the results to a broader group of HIV-infected individuals.

To examine the number and characteristics of persons who are not receiving recommended prophylaxis against PCP, we collected information on the use of PCP prophylaxis among San Francisco residents whose AIDS-defining diagnosis was PCP in 1993.

METHODS. We conducted a retrospective chart review of all San Francisco residents who were reported to the San Francisco Department of Public Health with PCP as their first AIDS diagnosis in 1993. We also included individuals who were diagnosed with PCP if their only other AIDS-defining condition was a low CD4 count. We included these individuals because they are a group in whom PCP prophylaxis is indicated.

We retrospectively collected the following information on eligible patients: the type of PCP prophylaxis used (if any was used); whether the prophylaxis was used before the development of PCP, after the development of PCP, or both before and after PCP; and the type of health insurance. For individuals who did not receive PCP prophylaxis prior to developing PCP, the reasons why the individuals did not receive medications was also ascertained.

RESULTS. There were 386 patients who were diagnosed with PCP as their AIDS-defining diagnosis in 1993. Medical charts were available for 341 (88%) of these patients. The majority [177, (52%)] of individuals whose AIDS-defining diagnosis was PCP were between 35 and 45 years of age. Two hundred forty one (71%) were white, 281 (82%) were gay/bisexual men, and 179 (53%) had private

health insurance. Nearly 20% of these patients did not have any type of health insurance.

There were 310 patients who were clinically eligible for PCP prophylaxis (as defined by a low CD4 count done anytime prior to the diagnosis of PCP, or within three months of the diagnosis). Of these 310 individuals, 112 (36%) received prophylaxis prior to the development of PCP (Table 1). There were nine individuals who had received prophylaxis prior to PCP but who had discontinued the medication over one month prior to developing PCP. We considered these individuals as part of the group of individuals who did not receive primary prophylaxis.

PCP prophylaxis was less common among persons of color. Forty-one percent of whites were using prophylaxis and only 23% of people of color were receiving these medications. Individuals who lacked health insurance were less likely than individuals with either public or private insurance to have received PCP prophylaxis. Only 17% of those without health insurance received prophylaxis. The frequency of prophylaxis among persons with public (44.3%) and private (41.1%) insurance was similar (Table 1). There were no age or gender differences between individuals who were receiving PCP prophylaxis prior to developing PCP and those who were not. Use of these medications was equally common among those with a history of injection drug use and those who did not inject drugs.

Of the 198 individuals who were clinically eligible for PCP prophylaxis prior to the development of PCP but did not receive it, the majority were 35-45 years, white, male, gay, and had private health insurance.

Because PCP prophylaxis is also recommended for the prevention of subsequent PCP infections among individuals who have had a prior episode of PCP, all the patients in our sample were clinically eligible for secondary prophylaxis. There were a total of 341 persons eligible for secondary prophylaxis. Of these, 216 (63%) received prophylaxis. There were no differences in the sociodemographic characteristics of individuals who received secondary PCP prophylaxis and those who did not (Table 2).

In those situations where information regarding patients not receiving PCP prophylaxis was ascertained, the most common reasons identified were that these patients were unaware of their HIV infection (33%) and that the patients were not receiving any medical care for their HIV disease prior to their diagnosis of PCP (16%) (Table 3).

EDITORIAL COMMENT. Use of prophylaxis prior to the development of PCP was less common among people of color and the uninsured. In contrast, there were no sociodemographic differences among those who had received secondary PCP prophylaxis. This suggests that once an individual has entered the health care system, the initial barriers to receiving appropriate prophylaxis are removed. This is supported by the large number of individuals in whom a reason for not receiving primary prophylaxis was that they were not receiving medical care for their HIV disease or that they were unaware of their HIV serostatus. Although people of color were proportionately less likely to have received primary PCP prophylaxis, the majority of persons not receiving PCP prophylaxis were white gay men.

The most common reasons for individuals not receiving PCP prophylaxis are preventable. Efforts to expand medical services and outreach programs to assist with access to these services should help alleviate the discrepancy between primary and secondary PCP prophylaxis use. Efforts to target persons at high risk for HIV who have never been tested and persons who have recently tested positive for HIV infection should allow for greater use of prophylactic medications.

Reported by: AIDS Office, Division of Epidemiology, Disease Control, and AIDS

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Table 1. Frequency of primary PCP prophylaxis among patients whose initial AIDS diagnosis was PCP and whose CD4 counts were ≤ 200 cells per cubic millimeter *, San Francisco, 1993 (n=310).

Characteristic	Primary PCP prophylaxis		adjusted p value**
	Yes	No	
	n (%)	n (%)	
Total	112 (36.1)	198 (63.9)	
Age group (years)			
<35	26 (31.7)	56 (68.3)	
35-45	56 (34.8)	105 (65.2)	0.187
>45	30 (44.8)	37 (55.2)	
Race			
White	91 (41.4)	129 (58.6)	0.026
Nonwhite	21 (23.3)	69 (76.7)	
Sex			
Male	111 (36.6)	192 (63.4)	0.903
Female	1 (14.3)	6 (85.7)	
Risk			
Gay/bisexual	108 (38.4)	173 (61.6)	0.103
Heterosexual	4 (13.8)	25 (86.2)	
IDU	13 (28.3)	33 (71.7)	0.763
Non-IDU	99 (37.5)	165 (62.5)	
Type of insurance			
Public	35 (44.3)	44 (55.7)	
Private	67 (41.1)	96 (58.9)	0.001***
None	10 (17.0)	49 (83.1)	

* CD4 counts reflect a test done any time prior to the diagnosis of PCP or within three months after the diagnosis.

** Adjusted for all variables listed above through a logistic regression model.

*** Compares the odds of primary PCP prophylaxis among patients who had any type of health insurance to those who were uninsured.

Table 2. Frequency of secondary PCP prophylaxis among patients whose initial AIDS diagnosis was PCP, San Francisco, 1993 (n=341).

Characteristic	Secondary PCP prophylaxis		adjusted p value*
	Yes	No	
	n (%)	n (%)	
Total	216 (63.3)	125 (36.7)	
Age group (years)			
<35	58 (63.0)	34 (37.0)	
35-45	110 (62.2)	67 (37.9)	0.801
>45	48 (66.7)	24 (33.3)	
Race			
White	155 (64.3)	86 (35.7)	0.352
Nonwhite	61 (61.0)	39 (39.0)	
Sex			
Male	210 (63.1)	123 (36.9)	0.995
Female	6 (75.0)	2 (25.0)	
Risk			
Gay/bisexual	192 (62.1)	117 (37.9)	0.161
Heterosexual	24 (75.0)	8 (25.0)	
IDU	33 (64.7)	18 (35.3)	0.540
Non-IDU	183 (63.1)	107 (36.9)	
Type of insurance			
Public	56 (64.4)	31 (35.6)	
Private	110 (61.5)	69 (38.6)	0.581**
None	47 (71.2)	19 (28.8)	

* Adjusted for all variables listed above through a logistic regression model.
** Compares the odds of primary PCP prophylaxis among patients who had any type of health insurance to those who were uninsured.

Table 3. Reasons for lack of primary PCP prophylaxis among individuals who presented with PCP as their initial AIDS diagnosis, San Francisco, 1993 (n=198).

Reason	n (%)
Unaware of HIV status	66 (33.3)
Not in medical care	31 (15.7)
Most recent CD4 count >200	24 (12.1)
Declined prophylaxis	17 (8.6)
Contraindicated	12 (6.1)
Stopped prophylaxis >1 month prior to developing PCP	11 (5.5)
Unknown	58 (29.3)
Other	5 (2.5)

FRANCIS J. CURRY NATIONAL TUBERCULOSIS CENTER

TRAINING PROGRAM
1995

The training program is part of the Francis J. Curry National Tuberculosis Center, one of three Tuberculosis Model Center sites funded by the Division of Tuberculosis Elimination, Centers for Disease Control and Prevention. The goal of the Center is to decrease tuberculosis morbidity through training, technical assistance, enhanced laboratory services and enhanced program activities.

TRAINING COURSE DESCRIPTIONS

TUBERCULOSIS INTENSIVE

A three-day course for medical providers covering diagnosis, management and treatment of tuberculosis; laboratory testing; infection control; and community control. Format is lecture, discussion, case presentations, clinical practicum and field observation.
Enrollment: 15 maximum; for physicians and other licensed medical professionals who diagnose and treat tuberculosis.
1995 dates: June 7 - 9; November 8 - 10

TUBERCULOSIS UPDATE

A four to eight hour course which may include: tuberculosis epidemiology, diagnosis, management and treatment; multiple drug resistance; managing difficult patients; reporting; infection control; community control; tuberculosis and HIV infection; x-ray interpretation. Format is lecture-discussion.
Enrollment: varies from 25-250; participant criteria will vary by update course.
1995 dates: January 25, September 14, December 12

TUBERCULOSIS 101

A one to three-day course for non-medical health worker staff covering epidemiology, transmission, pathogenesis, screening, prevention, diagnosis, treatment and infection control. Format is lecture, case discussion, role plays and field observations.
Enrollment: 20 maximum; for health outreach workers, social workers, disease investigators, social service agency staff, health educators and HIV antibody test counselors.
1995 dates: April 5 - 7 (Case Management); July 12 - 14 (Outreach Worker's Course)

TUBERCULOSIS AND THE LAW

A one and a half day course for law enforcement and legal personnel, and health officers covering tuberculosis transmission and pathogenesis, infection control and community control, and legal aspects of tuberculosis control. Format is lecture, discussion and case presentations.
Enrollment: 30 maximum; sheriffs, police officers, district attorneys, health officers, TB controllers.
1995 dates to be arranged

PREVENTING TUBERCULOSIS IN THE WORKPLACE

An eight hour course covering environmental and behavioral changes necessary to minimize potential for transmission of *M. tuberculosis* in clinical, institutional and workplace settings, including the implementation of OSHA regulations. Format is lecture, discussion and case studies. Participants will draft a plan of action for their own sites.
Enrollment: 20 maximum; engineers, industrial hygienists, infection control personnel, medical providers, disease control investigators.
1995 dates to be arranged

TUBERCULOSIS PROGRAM MANAGER'S COURSE

A four-day course for program managers on aspects of a city or county public health tuberculosis program, including surveillance, directly observed therapy, screening, contact investigation, infection control, outreach workers, use of incentives, difficult patient management and computerization of operations. Format is lecture, discussion, case presentations, clinic and field observations.
Enrollment: 15 maximum; administrative and health care personnel involved in tuberculosis program administration.
1995 dates: August 15 - 18

TRAINING FACULTY

Faculty are providers, researchers and educators from the School of Medicine, University of California, San Francisco; the San Francisco Department of Public Health; the School of Public Health at the University of California, Berkeley, and from the greater San Francisco Bay Area provider community.

COST

There are no plans for registration fees unless the course is held at a large conference facility; there may be a small charge for course materials and continuing education credits. Training participants will need to be prepared to cover their own lodging, travel and per diem costs.

CONTINUING EDUCATION CREDIT

Application has been made for Category I Continuing Medical Education (CME) credits. The American Academy of Physician Assistants honors AMA Category I courses for AAPA credit, and the California State Board of Registered Nursing offers hour-for-hour equivalent Continuing Education Unit credit for nursing professionals.

APPLICATION

To apply for course enrollment, write to the training program of the Francis J. Curry National Tuberculosis Center, 3180 - 18th Street, Suite 101, San Francisco, CA 94110-2028, or call (415) 502-4600.

The San Francisco-based program is a joint effort of the San Francisco Department of Public Health and the University of California, San Francisco, in cooperation with the Tuberculosis Control Division, California State Department of Health Services.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

8 WEEK PERIOD ENDING 10/29/94

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 36 THROUGH 43			TOTAL CASES REPORTED TO DATE		
	1992	1993	1994	1992	1993	1994
AIDS	267	483	289	1,553	4,342	1,909
AMEBIASIS	17	59	36	161	208	210
CAMPYLOBACTERIOSIS	117	107	112	599	537	511
CHANCROID	0	0	0	1	0	0
CHLAMYDIAL INFECTIONS	290	347	323	1,819	1,965	2,047
GIARDIASIS	32	60	79	216	276	337
GONORRHEA	450	306	295	2,312	1,867	1,741
H. INFLUENZAE INVASIVE DISEASE	0	1	1	10	15	4
HEPATITIS Type A	48	34	59	313	170	228
HEPATITIS Type B	11	19	10	67	67	61
HEPATITIS Non A - Non B	2	0	0	2	4	0
LISTERIOSIS	0	0	0	3	4	0
LYME DISEASE	0	0	0	2	2	1
MALARIA	1	1	2	9	13	13
MEASLES	0	1	0	1	4	2
MENINGOCOCCAL INFECTIONS	0	0	1	8	1	3
PELVIC INFLAMMATORY DISEASE	19	24	12	144	148	97
PERTUSSIS	0	4	2	3	4	9
RUBELLA	0	0	0	2	0	0
SALMONELLOSIS	52	49	39	163	180	148
SHIGELLOSIS	72	59	74	277	220	212
SYPHILIS, Total	40	23	7	309	131	63
SYPHILIS, Primary & Secondary	16	7	6	86	53	34
TUBERCULOSIS	53	58	45	294	301	234
TYPHOID FEVER	0	1	1	3	3	3
TOTAL DEATHS REPORTED THIS PERIOD	1,167	1,009		6,933	6,385	
Deaths from pneumonia and influenza	24	118		125	434	
Medical Examiner cases	189	228		1,232	1,239	
Drug-related cases	41	32		243	227	
Cocaine-related cases	16	11		120	114	

CITY AND COUNTY OF SAN FRANCISCO
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Vol. 11, Nos. 1/2 Jan./Feb. 1995

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

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The San Francisco Childhood Lead Prevention Program

INTRODUCTION

Mean blood lead levels in the United States declined 78% from 1976 to 1991 largely due to the removal of lead from gasoline and soldered cans (1). Nevertheless, lead poisoning continues to pose a significant environmental health threat. Children, especially those living in older housing, are exposed to lead by ingesting lead-based paint as well as soil and house dust containing lead. Over the past twenty years, the Centers for Disease Control and Prevention (CDC) has lowered the acceptable blood lead level three times due to the increasing evidence of the adverse neurological, cognitive, and developmental effects of lead poisoning at even low levels of lead. In 1991, the intervention threshold was lowered from 25 to 10 ug/dL, and universal screening of all children ages 6 months to 6 years was recommended. This is to be accomplished by interviews assessing potential lead exposure and through blood lead tests (2).

In 1991, the San Francisco Department of Public Health (DPH) carried out a preliminary assessment of childhood lead poisoning among SF children. The results of screening 1199 children under 6 years of age indicated that over 8% had elevated blood lead (EBL) ≥10 ug/dL (3). In response to the new CDC guidelines and the DPH study, the San Francisco Board of Supervisors approved an ordinance in 1992 to develop a comprehensive lead poisoning prevention program. In February of 1993, the DPH initiated the Childhood Lead Prevention Program (CLPP) whose functions include public and professional education, outreach, referral, tracking of blood lead screening, case-management, and education and training in hazard reduction. A grant from the CDC has allowed the CLPP to provide comprehensive education and outreach in the Mission District, a predominantly Latino neighborhood with high concentrations of young children, older housing and poverty.

As an epidemiology-based program, the CLPP has collected data on the results of screening and case-management, and endeavored to include risk information in the planning of interventions In this report we provide the following information based on data from the CLPP: description of the results of lead screening; identification of risk factors associated with EBL; and evaluation of the case-management program. We then propose high-risk neighborhoods in SF for targeting environmental interventions and intensified professional and public education on lead hazards.

METHODS

Screening. The lead results and demographic information of San Francisco children tested by participating community clinics, hospital-based pediatric clinics, private practitioners, and DPH district health centers were reported to the CLPP. The outcome variable, blood lead concentration (PbB), was determined by venous blood tests analyzed at local laboratories. Initial

blood lead data from March 1991 through November 1994 was analyzed using EpiInfo. Univariate Chi-squared tests were calculated to assess associations between EBL and demographic factors (age, race, and sex).

Case Control Study. The base population for the case-control study included 5388 children who received an initial blood lead test from March 1991 to June 1994. The 91 children (1.7%) in this population with blood lead concentrations ≥20 ug/dL (at their initial blood test) were selected as cases. Controls (n=182) were selected from the 5035 children with blood lead levels <10 ug/dL using a random selection procedure. The exposure variable, age of housing, was determined from the San Francisco Tax Assessor database.

Descriptive analysis for the case-control study was carried out using EpiInfo. The risk of elevated blood lead associated with older housing was determined by dividing housing into two age categories, pre-1950 and 1950-present, and calculating a Mantel-Henzel odds ratio adjusted for age.

Evaluation of the Case Management System. The CLPP's case-management system has three levels of intervention based on the EBL level. A letter and lead information packet are sent to parents of children with EBL of 10-14 ug/dL. These packets include simple recommendations for reducing lead exposure and encourage parents to have their children retested in three months. Children with EBL of ≥15 ug/dL receive a home visit by a public health nurse (PHN) who takes a detailed behavioral history to assess potential sources of lead exposure, provides risk reduction and nutrition education, and follows-up retesting of the child's lead level. Case-management of children with EBL ≥20 ug/dL also includes a detailed environmental inspection by the program's industrial hygienist. The results of the environmental evaluation and recommendations for appropriate lead abatement are sent to the family, the owner of the dwelling, the PHN, and the child's doctor.

In order to assess the response of blood lead levels to the case management system, we looked at all cases with at least one blood lead level ≥20 ug/dL (reported from March 1991 through December 1994) who were followed for a minimum of 6 months by our program.

The screening histories of the 60 cases that met these criteria were compiled from the CLPP lead screening database and case files, and evaluated to assess changes in blood lead levels over the course of the case-management interventions. The criteria for a successful reduction of a blood lead level ≥20 ug/dL included: a reduction of the child's blood lead level to <15 ug/dL or reduction of the initial blood lead level by 10 ug/dL.

Identification of high risk neighborhoods. Data from the 1990 U.S. Census was utilized to identify high risk neighborhoods within San Francisco. For each SF census tract, the number of dwellings built before 1940 was multiplied by the number of children under the age of six living below the poverty level to create a risk factor index for lead poisoning. Based on the risk factor index, census tracts were categorized as of higher, medium, or lower risk. MapInfo was used to display the geographic distribution of lead risk within San Francisco.

RESULTS

Screening. From March 1991 through November 1994, initial blood lead tests were received for 7143 children aged 6 months to 6 years. Of these 7143 children, 587 (8.2%) had EBL ≥10 ug/dL, 186 children (2.6%) had lead EBL 15-19 ug/dL, and 123 children (1.7%) had EBL ≥20 ug/dL (Table 1).

The highest prevalence of EBL was 10.0% for 1-year-olds, closely followed by a prevalence of 9.6% among 2-year-olds (Table 2). Of demographic factors examined, age was the only one found to be statistically significant ($P<.01$).

Among the children with race/ethnicity information, Caucasian children had the highest age-adjusted rate of elevated blood lead levels (12%) although they accounted for less than four percent of all children screened (Table 3). African American and Latino children had the same age-adjusted rate of elevated blood lead levels (8.5%). Asian children had the lowest age-adjusted rate of elevated blood lead levels (7.6%).

Case Control Study. Results of the case-control study indicated that 97.8 percent (n=89) of the cases (PbB ≥20 ug/dL) lived in houses built before 1950 compared to 83.5 percent (n=152) of the controls (PbB <10 ug/dL). Children who lived in older houses (built before 1950) were almost nine times as likely to have EBL ≥20 ug/dL than children who lived in newer houses (built in or after 1950) {MH age-adjusted OR = 8.7, 95% C.I. (1.90<OR<52.8)].

Evaluation of the case management system. Of the 60 cases (initial PbB ≥20 ug/dL, followed ≥ 6 months), 46 (77%) were successfully reduced to <15 ug/dL or by 10 ug/dL from their initial level. The lack of substantial blood lead reduction in the other 14 cases appears to be associated with: ongoing home remodeling (2), inappropriate methods of remediation (2), recommended abatement was beyond parental means (5), absence of parental cooperation (2), and unknown (3).

Identification of high risk neighborhoods. Figure 1 presents a map of lead risk within San Francisco by census tract and neighborhood. While lead risk is distributed throughout SF, it is highest in the Mission, Outer Mission, Visitation Valley, Western Addition, the Tenderloin, and some sections of Bay View/Hunter's Point, Potrero Hill, and the Richmond.

DISCUSSION

The SF CLPP screening results are consistent with those of other investigations of lead poisoning, especially in urban areas. EBL continues to be a prevalent problem in SF (8% in our database), is most common in one and two-year-olds, and is associated with residence in buildings built before 1950. Lead levels have been reduced in the majority of our cases, with the current program emphasizing education of parents and voluntary cooperation of landlords with remediation recommendations.

There are a number of limitations to our database. Our screening results come from providers and laboratories primarily serving the Mission District; therefore the data may not be representative of all children in SF. Associating EBL with residence is difficult for the case families who move frequently. Additionally, we have only limited data (from environmental investigations or PHN reports) on the condition of housing (including peeling paint and remodeling), which has also been shown to be a major determinant of EBL (4). In SF, 9% of occupied living units have peeling paint or broken plaster (5), compared with 6% of units in US central cities overall (6).

Our database is also limited by the lack of systematic information on children with other exposures to lead, including childcare, parents' occupation (in a lead related industry), home remedies and lead glazed ceramics. Lastly, the reduction in case lead levels may represent regression towards the mean and other non-specific factors, as well as the effect of our intervention.

The California Department of Health Services has initiated a process for direct reporting of all blood lead tests. We are exploring the use of building inspection data for assessing condition of residence. We are also interested in the use of SF CHDP and MediCal data to assess prevalence of screening in those populations of children.

EDITORIAL COMMENT

Despite CDC and the American Academy of Pediatrics recommendations for blood lead screening, most SF children are not screened.

Obstacles include lack of familiarity about the problem among providers and parents, lack of on-site phlebotomists, disagreement about the need for universal blood screening, and continuing barriers to access for health care, especially among immigrant and other poor children.

Among the 24,000 SF children one to five years old who live in housing built before 1950 (1990 US Census), we estimate that at least 2% or 480 children have lead levels of ≥20 ug/dL. Many of the children who live in newer housing have other sources of exposure. At present, we have only 123 children with EBL ≥20 ug/dL in our database. What about the other hundreds of lead poisoned children in San Francisco?

We believe that the most important conclusions from our project are that parents and providers should be more attentive to potential lead exposures among children and that blood lead screening should be expanded throughout SF to identify all poisoned children. While improved technology for blood lead testing, including fingerstick methods and eventually bone lead testing, will facilitate screening in the future (7), current methods deserve more enthusiastic application.

The SF CLPP, in collaboration with community based organizations, is now targeting areas of SF with the highest predicted risk for childhood lead poisoning (as indicated in Figure 1) for prevention activities, including professional and public information. By focusing on populations of children at high risk, the yield from screening for EBL can be increased (8). CLPP demonstrated this ability in a 1993 door-to-door survey in the Mission District. Among 193 children living in houses with deteriorating exteriors, EBL was detected in 12.4% (9).

While the EBLs of most of our cases have improved, the need to strengthen our case-management intervention is clear. In addition to initiatives for parents and providers, CLPP is collaborating with efforts to educate landlords, painters, and contractors in appropriate procedures to reduce lead sources. The availability of HUD financing through the Mayor's Office should facilitate landlord involvement in lead remediation. Follow-up and, when necessary, enforcement of environmental citations should increase the effectiveness of our case-management program.

Because lead is an environmental health problem with rather well defined sources, interventions should not be dependent on identifying poisoned children. Known hazards, such as lead-based paint in poor condition, should directly trigger public health intervention. Providing education and incentives to high risk communities and organizations serving them should be the basis for primary prevention of lead poisoning.

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Table 1. Blood lead level by group

Blood Lead Level	No. screened	%
Total <10 ug/dL	6556	91.8
Total ≥10 ug/dL	587	8.2
•10-14 ug/dL	278	3.9
•15-19 ug/dL	186	2.6
•≥20 ug/dL	123	1.7

Table 2. Screening results by age

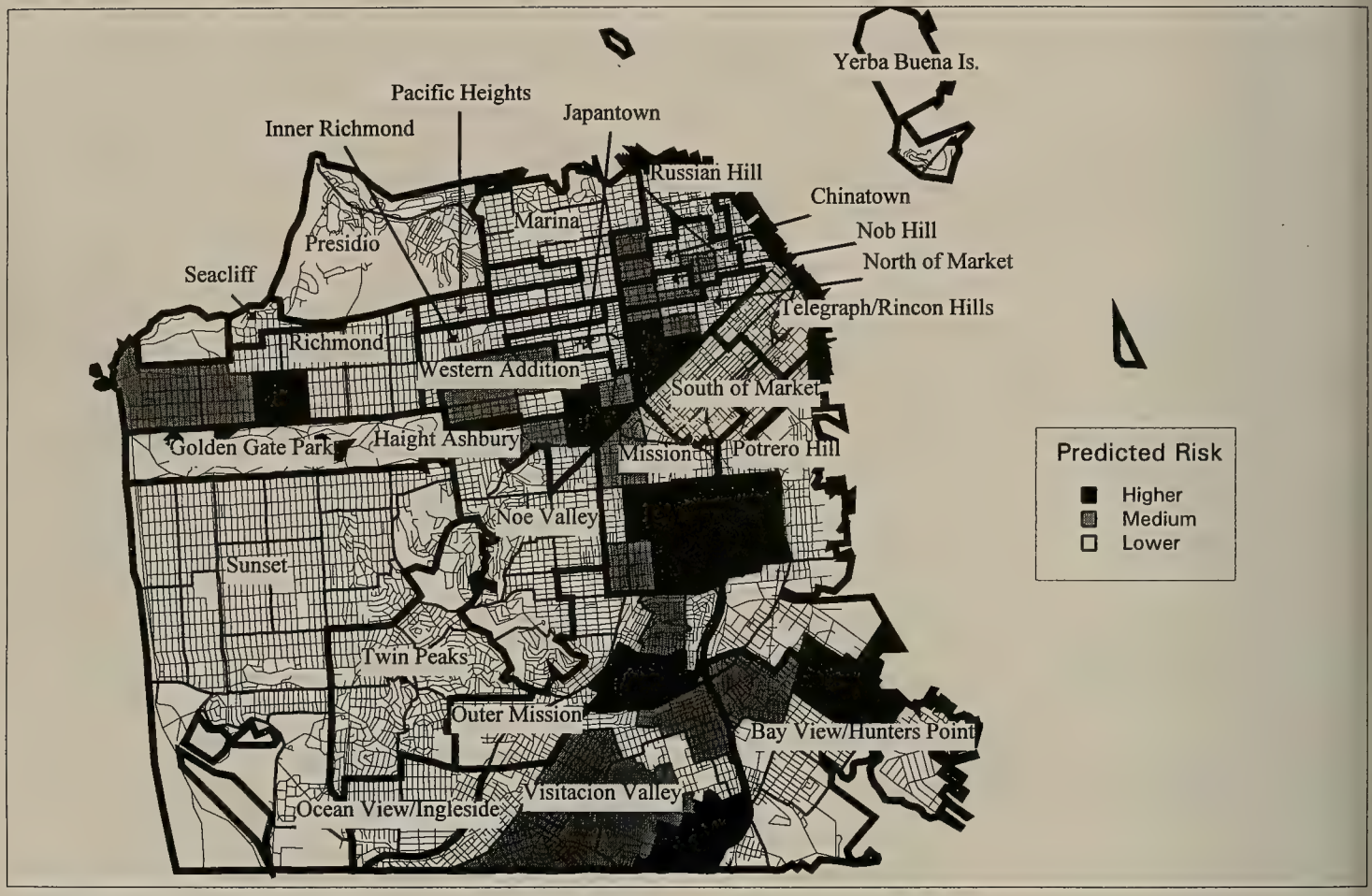
Age (in yrs)	No. screened	Pb≥10 (EBL)	% EBL
<1	1045	55	5.3
1	2049	205	10.0
2	1473	141	9.6
3	1034	87	8.4
4	948	54	5.7
5	594	45	7.6
Total	7143	587	8.2

Table 3. Screening results by race/ethnicity

Race/ethnicity	No. screened	Pb≥10	Age Adj. rate/100
African Am.	704	61	8.5
Asian	901	70	7.6
Caucasian	257	32	12.1
Latino	3669	306	8.5
Other	102	16	14.6
Unknown	1505	102	6.7
Total	7143	587	

Figure 1.

Predicted Risk for Childhood Lead Poisoning San Francisco Census Tracts



Based on 1990 Census Data:

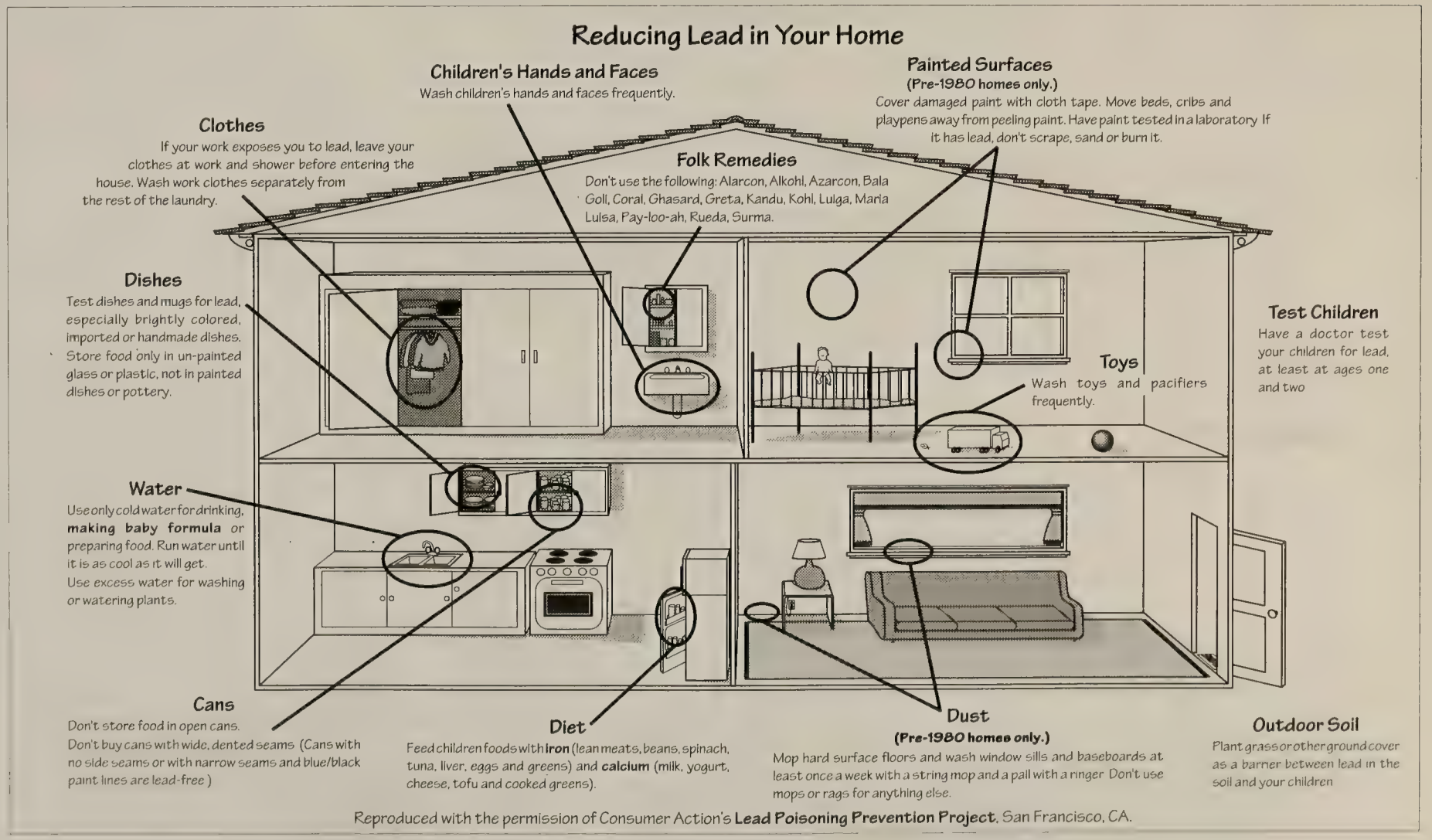
Dwellings built before 1940

Children under 6 years old with family income below poverty level

Predicted risk range values High (Low) are one standard deviation above (below) the mean.

Lead Prevention Health Education Materials

To increase awareness and understanding of lead poisoning, the CLPP staff conducts substantial education and outreach to the community. Health education materials, available in various languages, are regularly distributed to health department and community clinics, WIC clinics, childcare centers, Department of Social Services, medical providers, and to parents and families. Below is a graphic, illustrating sources of lead in the home environment, which is included in "Reducing Lead in Your Home," a brochure created by Consumer Action's Lead Poisoning Prevention Project. For more information about health education materials, including multilingual videos, posters, and a guide to preventing lead poisoning, call the Consumer Action Hotline, 777-9635 or the S.F. Childhood Lead Prevention Program, 255-3748.


Reducing Lead in Your Home
Children's Hands and Faces
Wash children's hands and faces frequently.
Painted Surfaces
(Pre-1980 homes only.)
Cover damaged paint with cloth tape. Move beds, cribs and playpens away from peeling paint. Have paint tested in a laboratory If it has lead, don't scrape, sand or burn it.
Clothes
If your work exposes you to lead, leave your clothes at work and shower before entering the house. Wash work clothes separately from the rest of the laundry.
Folk Remedies
Don't use the following: Alarcon, Alkohl, Azarcon, Bala Goli, Coral, Ghasard, Greta, Kandu, Kohl, Luiga, Maria Luisa, Pay-loo-ah, Rueda, Surma.
Dishes
Test dishes and mugs for lead, especially brightly colored, imported or handmade dishes. Store food only in un-painted glass or plastic, not in painted dishes or pottery.
Test Children
Have a doctor test your children for lead, at least at ages one and two
Toys
Wash toys and pacifiers frequently.
Water
Use only cold water for drinking, making baby formula or preparing food. Run water until it is as cool as it will get. Use excess water for washing or watering plants.
Cans
Don't store food in open cans. Don't buy cans with wide, dented seams (Cans with no side seams or with narrow seams and blue/black paint lines are lead-free)
Diet
Feed children foods with iron (lean meats, beans, spinach, tuna, liver, eggs and greens) and calcium (milk, yogurt, cheese, tofu and cooked greens).
Dust
(Pre-1980 homes only.)
Mop hard surface floors and wash window sills and baseboards at least once a week with a string mop and a pail with a ringer Don't use mops or rags for anything else.
Outdoor Soil
Plant grass or other ground cover as a barrier between lead in the soil and your children

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CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

9 WEEK PERIOD ENDING 12/31/94

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 44 THROUGH 52			TOTAL CASES REPORTED TO DATE		
	1992	1993	1994	1992	1993	1994
AIDS	313	464	279	1,866	4,806	2,188
AMEBIASIS	30	51	45	191	259	255
CAMPYLOBACTERIOSIS	96	88	103	695	625	614
CHANCROID	0	0	0	1	0	0
CHLAMYDIAL INFECTIONS	394	391	334	2,213	2,356	2,381
GIARDIASIS	40	71	70	256	347	407
GONORRHEA	502	339	290	2,814	2,206	2,031
H. INFLUENZAE INVASIVE DISEASE	0	1	1	10	16	5
HEPATITIS Type A	66	50	65	379	220	293
HEPATITIS Type B	8	8	10	75	75	71
HEPATITIS Non A - Non B	1	0	0	3	4	0
LISTERIOSIS	0	0	1	3	4	1
LYME DISEASE	1	0	0	3	2	1
MALARIA	5	1	1	14	14	14
MEASLES	0	0	0	1	4	2
MENINGOCOCCAL INFECTIONS	0	0	1	8	1	4
PELVIC INFLAMMATORY DISEASE	37	34	18	181	182	115
PERTUSSIS	2	0	3	5	4	12
RUBELLA	0	0	1	2	0	1
SALMONELLOSIS	50	20	51	213	200	199
SHIGELLOSIS	51	25	26	328	245	238
SYPHILIS, Total	20	18	19	329	149	82
SYPHILIS, Primary & Secondary	6	4	9	92	57	43
TUBERCULOSIS	61	55	46	355	356	280
TYPHOID FEVER	0	0	1	3	3	4

TOTAL DEATHS REPORTED THIS PERIOD	1,358	1,321	8,291	7,706
Deaths from pneumonia and influenza	49	157	174	591
Medical Examiner cases	247	244	1,479	1,483
Drug-related cases	42	63	285	290
Cocaine-related cases	19	36	139	150

CITY AND COUNTY OF SAN FRANCISCO
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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

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12 National Center for Chlamydia Control and Infertility Prevention - San Francisco
15 San Francisco STD/HIV Prevention Training Center

SF
70
85
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Evaluating the Impact of the San Francisco Screening and Treatment Program for *Chlamydia trachomatis* in Women

Introduction. The most common bacterial sexually transmitted disease (STD) in the United States is *Chlamydia trachomatis* (CT), causing an estimated 4 million infections per year and direct and indirect costs exceeding $2.4 billion annually (1). Infections are particularly common in sexually active adolescents across a variety of socioeconomic settings, with most studies observing prevalences between 10-20% (2). Few or no symptoms occur in approximately 70% of infected women (3), and asymptomatic infection in women can persist for up to 15 months (4). Infections may progress to involve the upper reproductive tract and may result in serious complications such as pelvic inflammatory disease (PID), tubal factor infertility, and ectopic pregnancy (5). The high prevalence of the infection, the high proportion of asymptomatic infections, and the serious sequelae associated with failure to detect and treat chlamydial infections are key factors which support utilizing programs to screen and treat women for infections to reduce disease and sequelae. Thus, in order to identify women who may have chlamydial infections, the Centers for Disease Control and Prevention (CDC) has recommended routine testing based on age, risk behavior, and clinical findings, especially in clinics and practices that provide reproductive health care to adolescent and young women (6).

To evaluate the impact of screening programs in reducing CT infections requires knowing the proportion of those screened who are infected over time, i.e. the prevalence of infection. Traditional morbidity surveillance systems are passive systems that record data only on reported cases and thus are influenced by changes in testing, e.g., increased testing increasing case detection, and by reporting, e.g., increased mandatory reporting of CT increasing the number of nationally reported cases of CT. In addition, because information about the total number of persons tested is not included in morbidity surveillance systems, such systems are inadequate for evaluating prevalence trends for infections in which there are changes in testing and reporting policies, as has occurred with CT. In contrast, sentinel site surveillance collects enhanced information at selected sites, including demographic information and denominator data about the number of persons tested at these sites. Therefore, sentinel site surveillance can provide a more accurate assessment of infection trends over time, than traditional morbidity surveillance, and can be used as a tool to evaluate the impact of CT screening programs in reducing incidence and prevalence of the infection.

The objective of our evaluation study was twofold. The first objective was to compare CT morbidity trends determined from a traditional passive surveillance system with prevalence trends determined from a sentinel site surveillance program. The second objective was to examine the impact of a screening and treatment program on the prevalence of chlamydial infection in women receiving care at participating sites.

Methods. In 1988, the STD Prevention and Control Program, San Francisco Department of Public Health (SFDPH), implemented a

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community-wide CT screening and treatment program for women at 35 sites, in addition to screening being performed at the only municipal STD clinic, City Clinic. Tests were provided to these sites free of charge by SFDPH. Additional education on chlamydia management was also given to providers.

Twelve of the 35 sites were selected as sentinel surveillance sites to evaluate the impact of the community-wide CT program. Selection criteria for the sentinel sites included availability of continuous data from 1989 through 1992, that clients be diverse in age and race/ethnicity and that the clinics be geographically diverse. Thus, the 12 screening sites selected as sentinel surveillance sites included five family planning sites, four youth services sites, and three primary care sites. The sentinel sites agreed to screen all women 10-39 years of age at their annual gynecology exam, regardless of signs, symptoms or risk factors for STDs. Several incentives were provided to encourage the participation of the sentinel surveillance sites: training in CT management and specimen collection, free CT and gonorrhea tests and equipment, courier services for transport of specimens and results, rapid notification of positive test results, and waiver of the health provider STD reporting requirement if the lab slip was completed.

Endocervical specimens were tested to detect CT infection at the SFDPH Laboratory using Microtrack DFA direct fluorescence antibody test (Syva) from 1988-1991. Beginning in 1991, specimens were tested using Chlamydiazyme EIA (Abbott).

Results: Morbidity Surveillance System. During the study period, the number of reports of CT infection increased from 668 in 1988 to 1899 in 1990, and then remained fairly stable in 1991 (1668 reports) and 1992 (1720 reports) (figure 1). As seen in figure 1, the number of CT cases reported from the sentinel surveillance sites and City Clinic declined over time (these sites are where all patients were screened at least once per year). However, the number reported from the remaining sites in the community-wide screening program and sites not supported by SFDPH increased.

Sentinel Surveillance System. The number of tests performed from samples collected at the sentinel surveillance sites during the study period increased from a little more than 2400 in 1988 to an average of more than 4400 in 1990-1992 (figure 2). The prevalence of CT infection declined by more than 50% in women tested at sentinel surveillance sites, from 6.9% in 1988 to 3.2% in 1992 (figure 2). Overall declines in prevalence were observed across all race/ethnicities (figure 3) and age groups (figure 4). The greatest proportionate decline was observed in females 10-14 years of age and Latinas. Of women screened at the sentinel sites, African-American women had the greatest prevalence of infection (9.4% in 1988 dropping to 4.8% in 1992) followed by white women (7.8% in 1988 to 3.7% in 1992), Latinas (6.2% in 1988 to 3.2% in 1992) and women of other race/ethnicities (5.1% in 1988 to 2.4% in 1992). Those less than 20 years of age had the greatest prevalence of CT infection (figure 4). Data collected in 1988 showed a prevalence of 25% in female adolescents 10-14 years, and 12.6% in those 15-19 years. In 1992, the prevalence for both age groups less than 20 years had dropped to 8.2%. In addition, prevalence of CT varied by type of sentinel site, with those targeting youth having the greatest prevalence of infection (18.9% in 1988 dropping to 7.2% in 1992), followed by sites providing primary care (7.8% in 1988 to 3.4% in 1992), and family planning sites having the lowest prevalence (4.8% in 1988 to 2.0% in 1992).

Morbidity Surveillance System compared to Sentinel Surveillance System. Trends from the morbidity surveillance system suggested that there was a sharp increase in the number of chlamydial infections in San Francisco from 1988 to 1990 and then a leveling of the number of cases in 1991 and 1992. In contrast, CT prevalence data collected from the sentinel surveillance sites demonstrated that the highest prevalence of infection was at the beginning of

the study period in 1988, and that there was overall a steady decline in prevalence at these sites during the next four years. Figure 5 juxtaposes the data from the morbidity surveillance system with the prevalence data from the sentinel surveillance system.

Discussion. During the study period, traditional morbidity surveillance data suggested that CT trends sharply increased and then leveled off. However, sentinel site surveillance data demonstrated that CT prevalence was declining at these sites. These two surveillance systems provided different information that could be interpreted in very different manners. When the morbidity surveillance system is examined by type of provider we see that there are declining reports from City Clinic and other sentinel surveillance sites that maintained consistent testing and reporting throughout the study period. Therefore, the overall trend observed in the morbidity data is likely the result of changes in testing and reporting practices at other sites and clinical practices, rather than a reflection of the true level of morbidity in San Francisco.

If sentinel site surveillance had not been implemented it would have been difficult to evaluate accurately the community-wide CT screening and treatment program, because the morbidity data implied that chlamydial infections had leveled off rather than declined. This morbidity data, if used alone, would suggest that the screening and treatment program was not successful in decreasing CT infections in San Francisco. However, the observed overall decline of CT prevalence in women of all age and race/ethnicity subgroups receiving care at the sentinel sites suggested that the program was very successful in reducing CT infections. Thus, the more accurate prevalence data collected from the sentinel site surveillance was an important tool for evaluating prevalence trends following implementation of the screening and treatment program, and therefore demonstrating the success of this program. In addition, the decline in prevalence of chlamydial infections among women seen at the San Francisco sentinel sites during 1988-1992 was consistent with patterns observed in other areas that have implemented comprehensive screening programs (7-9).

Editorial Comment. Based on the success of the San Francisco program and the findings of others (7-9), we recommend establishing sentinel screening and treatment programs for *Chlamydia trachomatis* infection for women in other areas. Traditional morbidity surveillance systems can be used to identify "at-risk" populations and to assist in selecting sentinel screening and surveillance sites. Sites should be selected from geographic areas known to have high rates of CT and gonorrhea infection, and a sentinel site surveillance system should be developed to evaluate the screening program. Data supports the implementation of CT screening programs, and targeted screening of women seen outside of these programs, to reduce the prevalence of CT which in turn should reduce the serious long term sequelae associated with chlamydial infections: PID, chronic pain, tubal factor infertility, and ectopic pregnancy.

To assist providers in San Francisco who are not participating in the CT screening program in deciding which female patients are appropriate to screen for chlamydial infection, detailed below are the recommended criteria for screening women for CT developed by the Region IX Infertility Prevention Project (Region IX includes California, Arizona, Hawaii, and Nevada).

1. If the clinic prevalence is $\geq$ 2%, screen all sexually active women < 20 years of age at initial and annual visits.
2. If the clinic prevalence is $\geq$ 2%, screen all sexually active women 20-24 years of age at initial exam.
3. If the clinic prevalence is < 2%, screening is recommended for any age group (i.e., < 20 years of age) where the prevalence of CT infections is $\geq$ 2%.
4. If the clinic prevalence is < 2% in all age groups, screening should be considered based on sexual behavior (i.e., > 1 sex

partner in the last 3 months, new sex partner, or other recognized risk factors).

Please note that for all women not covered by the above criteria, diagnostic testing of all individuals with signs or symptoms of chlamydial infection are recommended for all age groups regardless of CT prevalence. For clinics without prevalence data, age and sexual behavior can assist in making screening decisions. By appropriately screening women for chlamydial infections we can reduce the prevalence and significant sequelea associated with this sexually transmitted disease.

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National Center for Chlamydia Control and Infertility Prevention - San Francisco

In September 1994, the San Francisco STD Prevention and Control Division in collaboration with the Department of Public Health Laboratory and the Bureau of Family Planning was selected as one of five National Centers for Chlamydia Control and Infertility Prevention. The San Francisco program successfully competed for this center largely due to the accomplishments of the San Francisco community-wide chlamydia (CT) screening and treatment program and the lessons learned from this project. With the funds available as a National Center for CT Control and Infertility Prevention, we will be able to expand our CT control efforts.

The three primary goals of the national project are: 1) to establish comprehensive CT screening and treatment services for adolescents and women of child bearing age using the newer and more sensitive urine diagnostic tests; 2) to design, implement and evaluate culturally sensitive and age appropriate interventions to prevent recurrent chlamydial infections and their associated adverse reproductive health outcomes; and 3) to develop better surveillance systems to monitor and evaluate our CT and infertility prevention program efforts.

Figure 1.
Reported CT, Morbidity Surveillance System

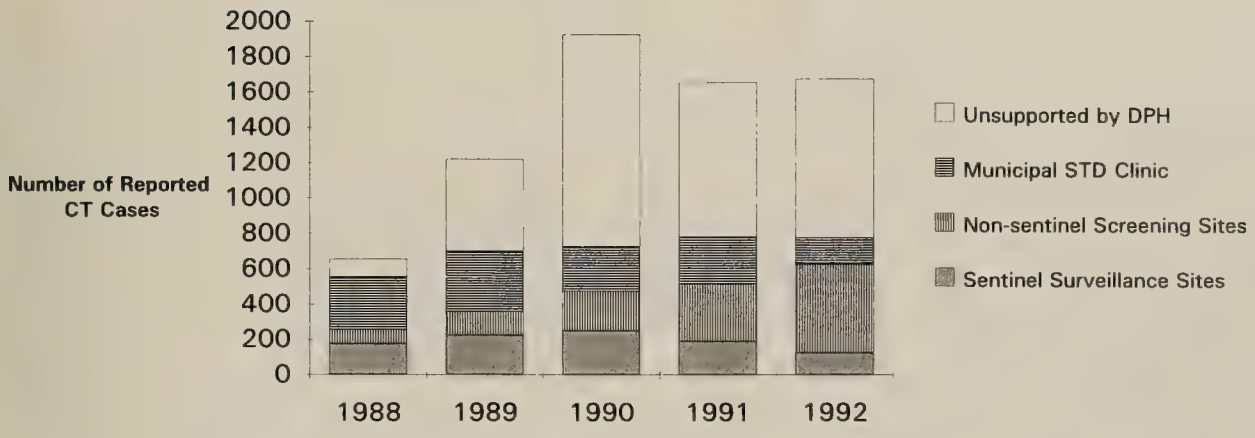


Figure 2.
Prevalence Trends from Sentinel Surveillance Sites Compared to Number of Tests Performed

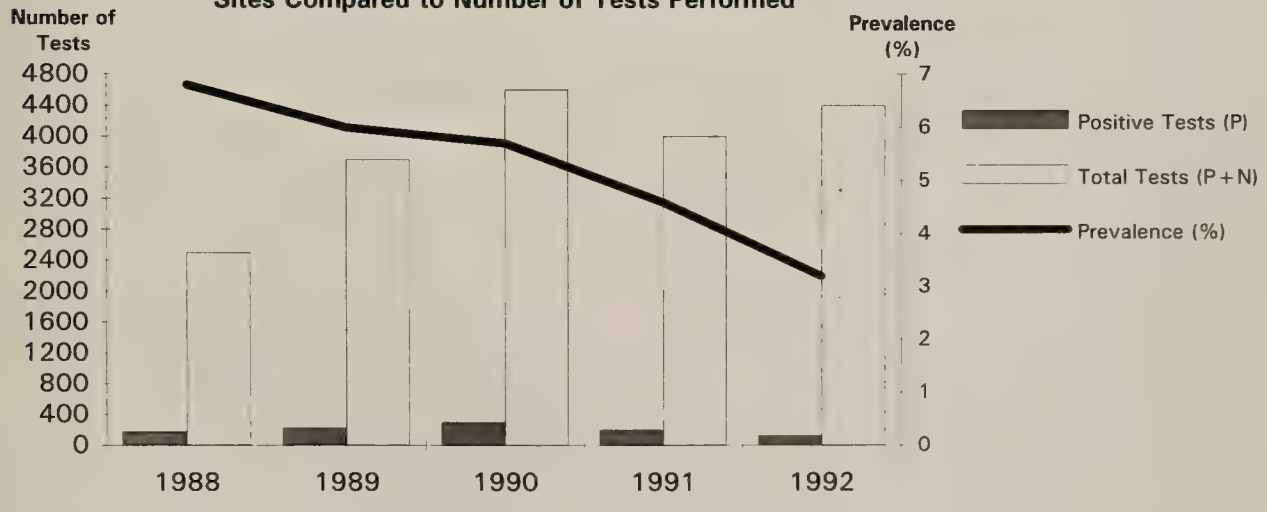


Figure 3.
Prevalence of CT Among Women Tested at Sentinel Sites by Race/Ethnicity

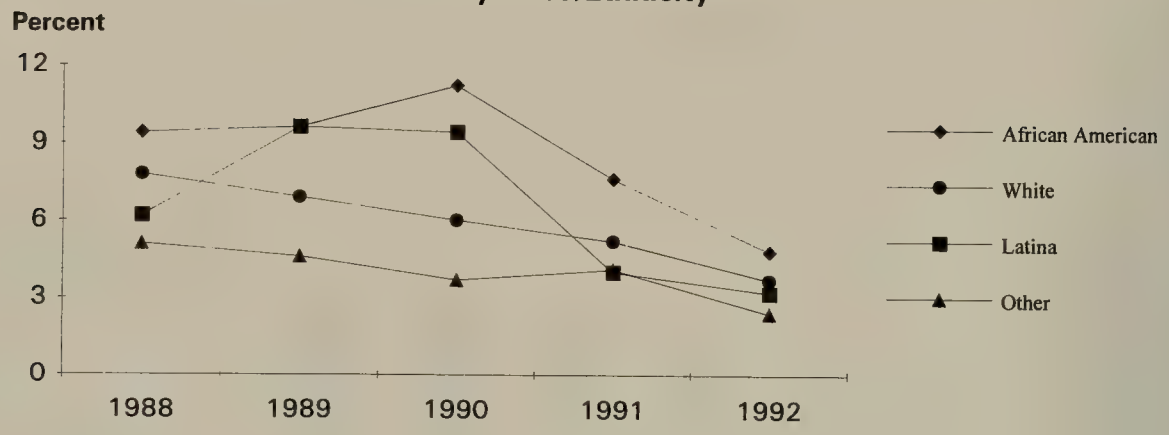


Figure 4.
Prevalence of CT Among Women Tested at Sentinel Sites by Age

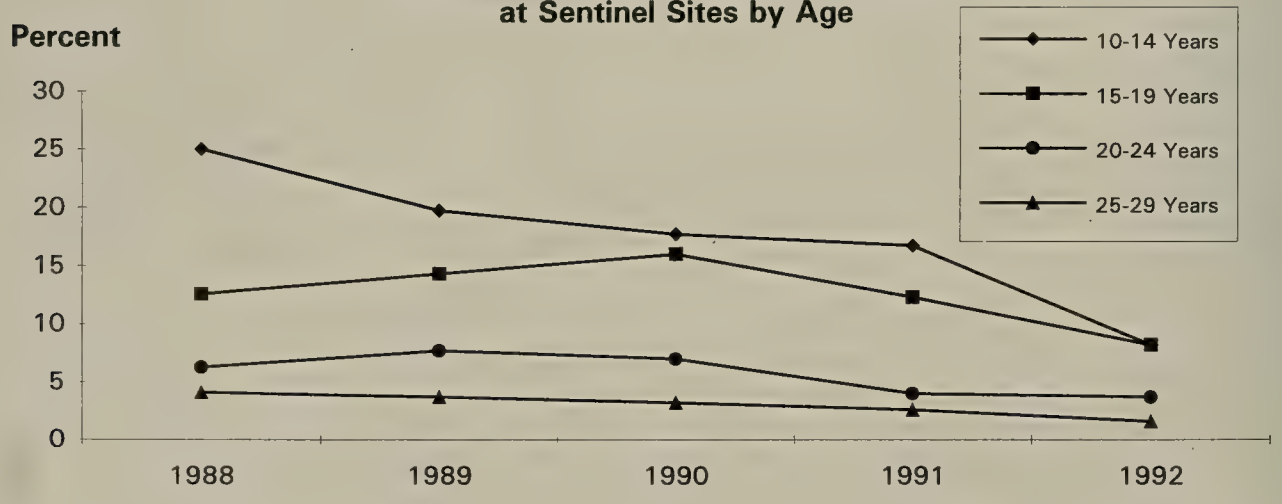
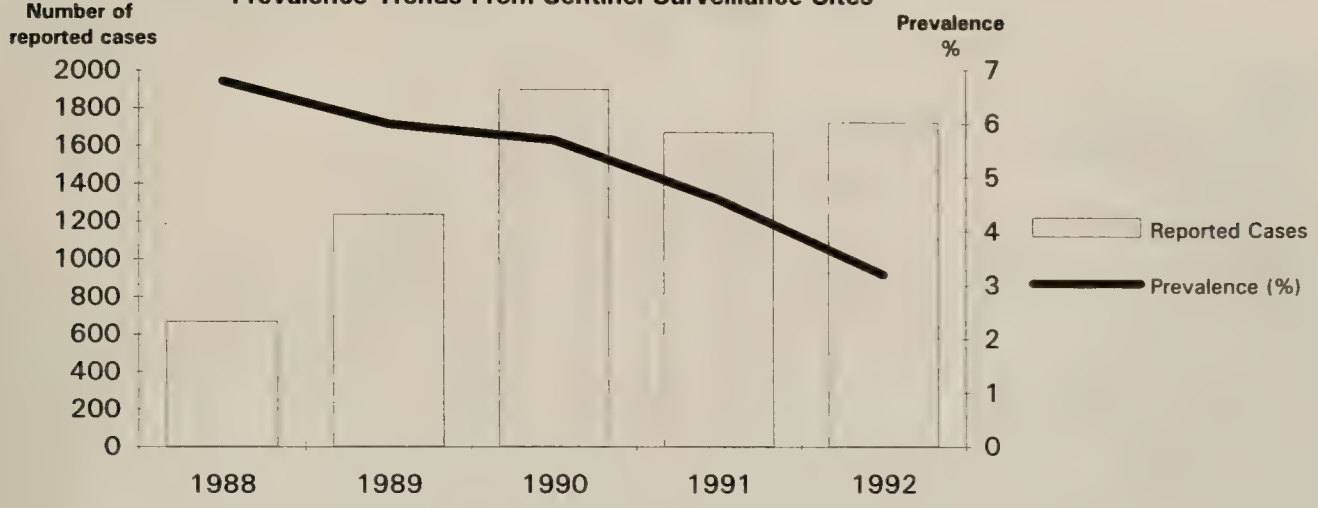


Figure 5.
Reported CT from Morbidity Surveillance System Compared to Prevalence Trends From Sentinel Surveillance Sites



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The San Francisco STD/HIV Prevention Training Center is one of 10 national sites funded by the Centers for Disease Control and Prevention that offers training for health care providers in the diagnosis, treatment, and management of sexually transmitted diseases and HIV.

1995-1996 Clinical Course Schedule

June 19-23	STD Comprehensive	January 26	Phlebotomy
August 4	Phlebotomy	February 8-9	Advances in STD Management
September 11-12	Special Issues: STD & Women	March 4-8	STD Comprehensive
September 15	Laboratory Methods	May 8	Laboratory Methods
October 6	Phlebotomy	June 10	Phlebotomy
October 19-20	4th Annual Women & HIV Conference	TBA	Integrating Public Health Fundamentals into STD Management
November 1-3	Infectious Disease Update for Health Professionals in the Correctional Setting	Ongoing Courses:	Basic STD Practicum Advanced STD Practicum

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CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

8 WEEK PERIOD ENDING 2/25/95

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 1 THROUGH 8			TOTAL CASES REPORTED TO DATE		
	1993	1994	1995	1993	1994	1995
AIDS	1,338	427	288	1,338	427	288
AMEBIASIS	35	38	40	35	38	40
CAMPYLOBACTERIOSIS	101	68	81	101	68	81
CHANCROID	0	0	0	0	0	0
CHLAMYDIAL INFECTIONS	211	346	325	211	346	325
GIARDIASIS	28	69	63	28	69	63
GONORRHEA	286	276	259	286	276	259
H. INFLUENZAE INVASIVE DISEASE	3	1	1	3	1	1
HEPATITIS Type A	36	20	55	36	20	55
HEPATITIS Type B	11	9	7	11	9	7
HEPATITIS Non A - Non B	2	0	0	2	0	0
LISTERIOSIS	0	1	3	0	1	3
LYME DISEASE	1	0	0	1	0	0
MALARIA	1	1	4	1	1	4
MEASLES	0	0	0	0	0	0
MENINGOCOCCAL INFECTIONS	0	3	3	0	3	3
PELVIC INFLAMMATORY DISEASE	21	27	21	21	27	21
PERTUSSIS	0	1	1	0	1	1
RUBELLA	0	0	1	0	0	1
SALMONELLOSIS	24	26	29	24	26	29
SHIGELLOSIS	34	30	43	34	30	43
SYPHILIS, Total	25	13	4	25	13	4
SYPHILIS, Primary & Secondary	12	7	2	12	7	2
TUBERCULOSIS	57	41	34	57	41	34
TYPHOID FEVER	0	0	0	0	0	0

TOTAL DEATHS REPORTED THIS PERIOD	1,457	1,242		1,457	1,242
Deaths from pneumonia and influenza	66	151		66	151
Medical Examiner cases	284	290		284	290
Drug-related cases	55	34		55	34
Cocaine-related cases	29	7		29	7

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

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22 Fact Sheet: What you should know about cryptosporidiosis (please copy and distribute)

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Cryptosporidiosis in San Francisco

Cryptosporidium is a small coccidian protozoan which has been described as a cause of diarrhea in humans and animals. These organisms are capable of a complete life cycle within the same host. Infection is created by ingestion of oocysts which eventually develop beneath the intestinal epithelial cell membrane[1] to produce a self-limited, watery, non-bloody diarrhea associated with abdominal cramps, anorexia, fever and malaise. In the immunocompromised host symptoms can be both more severe and more persistent.

Epidemiology. Person-to-person and animal-to-person transmission have been documented.[2-5] Outbreaks associated with daycare have been described.[6-9] And several outbreaks associated with a contaminated public water supply have been reported.[10-13]

Water System. San Francisco's water supply comes from a remote area of Yosemite National Park in the Sierra Nevada mountains. A portion of the City is served by water delivered from the mountain reservoir, by an enclosed aqueduct, directly to users. Another part of the city receives the same water, but after storage in a local reservoir and filtration. The water distribution system is such that the elevated tanks to which the finished water is delivered prior to distribution to individual users are regularly supplied from the same sources and pressure changes in the system seldom result in "crossover" of either filtered or unfiltered water to the opposite area.

In response to the knowledge that water can transmit cryptosporidiosis and that cysts can be found in surface water, the Federal EPA has moved toward requiring filtration of public water which comes from a surface source. The California EPA already has regulations in place which require this filtration.

Background. In 1985 the Public Health Laboratory examined over 2000 stool specimens from San Francisco men for cryptosporidium, 500 in a screening program for enteric pathogens in gay men (STED) and 1500 in the San Francisco Men's Health Study. One patient was positive in the Men's Health Study and none in the STED screening. Whether or not these men had symptoms is unknown.

The San Francisco Water Department has regularly tested water for cryptosporidium since 1989. The results of these test consistently show levels of cysts averaging less than 1 cyst/100 liters. In one study the ID_{50} for cryptosporidium in healthy individuals was shown to be 132 cysts.[14]

Cryptosporidiosis is one of the AIDS defining diagnoses. San Francisco has an AIDS incidence among the very highest in the nation and one hundred or more of cryptosporidiosis cases are reported each year. Thus this disease constitutes a significant public health problem. This study was undertaken to examine whether water filtration or lack thereof plays a role in this disease burden.

METHODS

All cases of cryptosporidiosis reported from 1989, when the disease became reportable, through the first quarter of 1993 were included. In addition a number of cases seen at San Francisco General Hospital but not previously reported were included. Cases were from 1986 through first quarter 1993. All included cases were matched to the AIDS registry to discover dual diagnoses. Five hundred

forty-eight cases of cryptosporidiosis were included but fifteen had unknown addresses for a total of 533 cases for analysis. Cases were lumped into a single unit without regard to time of occurrence in order to create a group large enough to analyze by census tract. Population figures are from the 1990 census.

Military census tracts and population were excluded from this analysis since regular disease reporting is not done by the military. The military population is 9,224, 4509 with unfiltered water (Treasure Island) and 4715 not supplied with SF water (Presidio). The census tracts of the City were grouped as receiving only filtered, 90% filtered, 75% filtered, only unfiltered, 90% unfiltered, 75% unfiltered, mixed filtered and unfiltered water, according to a map and estimates of the proportion of the area of each tract included on the map as having filtered water (Figure 1). The water supply and distribution system in San Francisco is such that it is reasonable to assume that those areas labeled as receiving filtered water do receive only filtered water and vice versa, that is, water pressure changes do not result in significant changes of filtration status of the water delivered to these areas. An attempt was made to deal with the confounding introduced by AIDS by setting cryptosporidiosis against a denominator of the total of AIDS cases ever reported in the census tract groups.

RESULTS

Of the 533 cases 4 were of unknown sex. Of the remaining cases, 487 or 92% were male. The age of 12 cases was unknown. Of the remaining cases, 12 or 2% were less than 10 years old. Ethnic/racial origin was unknown for 414 or 78% of cases. Fifteen percent (80 cases) were white non-Latino; 6%, or 31 cases, were Latino. There were 4 black and 4 Asian cases. With the exception of 3 Asian children, the ethnic/racial origin of all children was unknown.

Of the total 533 cases, 445 or 84% were known to have AIDS; 5 of these were women. The immune status of the remaining 88 is unknown.

Table 1 shows the occurrence of cryptosporidiosis per 100,000 population in the filtered and unfiltered census tract groups. Cryptosporidiosis was about three times as likely to occur in areas which received mostly filtered water as those which received mostly unfiltered water, with the mixed area falling between the two in occurrence. A total of 115,304 people live in census tracts that are at least 75% filtered, 16% of the total population. Census tracts defined as having mixed filtered and unfiltered water account for 110,623 people, another 16%. The total non-military population of San Francisco was 720,376 in the 1990 census.

Table 2 shows the occurrence of cryptosporidiosis using AIDS cases as the denominator. The same general relationship between filtered and unfiltered areas is shown, however the mixed area seems to have the same occurrence as the filtered areas.

Table 3 shows the proportion of AIDS cases with cryptosporidiosis to total AIDS cases in the filtered area compared to the unfiltered areas. AIDS patients who live in areas that receive filtered water are twice as likely to get cryptosporidiosis as AIDS patients whose homes received unfiltered water.

DISCUSSION

With more than 500 cases in about 6 years, cryptosporidiosis constitutes a public health problem in San Francisco, particularly when considering that the overwhelming majority of these cases have AIDS, a circumstance which transforms a usually self limited disease to one that is destructive of the quality of life, at best, to one that is life threatening, at worst.

This was an ecologic study with all the problems associated with that type of study. There is no information about what the actual source of drinking water is for any of these cases, or indeed, the whole population of the City. The assumption in this study, that tap water at home is the major source of water consumption, is recognized as tenuous.

With the exception of those census tracts that are 100% filtered or unfiltered, the assignment of status to the tract on the basis of map area bears an undetermined relationship to the proportion of population of that tract which actually receives filtered or unfiltered water. The assignment of all AIDS cases which ever occurred in a census tract as a denominator overestimates the prevalence of

AIDS by an undetermined amount which may not be equally distributed to all census tracts around the city.

The fact that only 12 children and 27 females are included in the data set raises questions about the completeness of case finding. There is most likely a diagnosing bias, patients who are not immune compromised may not get laboratory diagnosis. There may also be a reporting bias, in the private sector non-AIDS patients are not reported.

Nevertheless, the findings of the study show a consistency which, while unexpected, is difficult to dismiss. The occurrence of cryptosporidiosis is 2-4 times higher in areas with filtered water than those with unfiltered water no matter what portion of the city is used for analysis and regardless of whether AIDS cases or total population is used as denominator. This adds to the conclusion that water is not the important factor in cryptosporidiosis transmission in San Francisco.

Furthermore, there is evidence that this is not simply a phenomenon that the water is infectious only to AIDS patients since there is a two fold difference in occurrence in AIDS patients between the filtered and non-filtered areas of the City.

A similar study was done in Los Angeles comparing cryptosporidiosis rates in AIDS patients in an area before and after the installation of water filtration.[15] There was a 20% decrease in the prevalence of cryptosporidiosis following the addition of filtration. However, an adjacent control area where water had been continuously filtered had a decline of 47% over the same period leading to the conclusion that the introduction of filtration was not the important factor in the decline.

The combination of the consistently very low levels of oocysts in the water and the findings of this study suggest that it is very unlikely that San Francisco water is a significant source of the cryptosporidiosis in the City. It is important to examine other routes of transmission in order to introduce effective interventions. Shigella, hepatitis A, and E. histolytica are fecal-orally transmitted and have low infecting doses, similar to cryptosporidium. All of these organisms have been shown to have sexual transmission. It is therefore reasonable to postulate sexual transmission for cryptosporidiosis. Measures to protect against this route of infection are probably much more important to prevent cryptosporidiosis than efforts to boil or filter San Francisco tap water.

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Figure 1. Areas of San Francisco Served with Filtered Water

Source: San Francisco Department of Public Health, Bureau of Epidemiology, Disease Control and AIDS.

TABLE 1

Occurrence of cryptosporidiosis per 100,000 population

	100%		≥ 90%		≥ 75%		Mixed	
	cases	rate	cases	rate	cases	rate	cases	rate
FILTERED	115	144	144	147	182	158		
							96	87
UNFILTERED	142	35	229	50	254	52		

TABLE 2

Occurrence of cryptosporidiosis per AIDS cases

	100%		≥ 90%		≥ 75%		Mixed	
	cases	rate	cases	rate	cases	rate	cases	rate
FILTERED	115	4865	144	4444	182	4429		
							96	4449
UNFILTERED	142	2876	229	3044	254	3130		

TABLE 3

Occurrence of cryptosporidiosis in AIDS patients

	100%		≥ 90%		≥ 75%		Mixed	
	cases	rate	cases	rate	cases	rate	cases	rate
FILTERED	98	4146	121	2626	155	3772		
							74	3429
UNFILTERED	118	2383	190	2526	212	2612		

San Francisco Department of Public Health
Fact Sheet

What you should know about
CRYPTOSPORIDIOSIS
(crip-to-spor-id-i-o-sis)

What is cryptosporidiosis?

Cryptosporidiosis is a disease of the intestinal tract caused by the parasite *Cryptosporidium* parvum. It has only been know to cause disease in humans since 1976. *Cryptosporidium* lives in a protective shell called an oocyst. This enables it to survive many environmental conditions and be resistant to disinfection.

How is cryptosporidiosis spread?

Cryptosporidiosis is spread by putting something in the mouth that has been contaminated with the stool of an infected person or animal. It can be spread in the following ways:

- ✓ drinking contaminated water
- ✓ swallowing water while swimming in contaminated waters
- ✓ contact with the stool of infected animals (e.g., pets and farm animals)
- ✓ contact with the stool of infected persons (e.g., changing diapers, sexual practices)
- ✓ eating contaminated foods (rarely happens)
- ✓ hand-to-mouth transfer of oocysts from surfaces that may have become contaminated with infected stool (surface where diapers are changed)

San Francisco drinking water has extremely low levels of Cryptosporidium in it and does not pose any risk to the general public. Outbreaks of disease have occurred in other areas from contamination of the water by unusual circumstances such as large spring water runoff. If a situation such as this arose water customers could expect to be notified and given information on what to do.

What are the symptoms of cryptosporidiosis?

Two to 10 days after infection by the parasite, symptoms may appear. Although some persons may not have symptoms, others have: watery diarrhea, headache, abdominal cramps, nausea, vomiting, low-grade fever. These symptoms may lead to weight loss and dehydration.

In otherwise healthy persons, these symptoms usually last 1 to 2 weeks, at which time the immune system is able to stop the infection. In persons with a suppressed immune system, the infection may continue and become life-threatening. Examples of persons with a suppressed immune system are individuals who have AIDS, persons who recently had an organ or bone marrow transplant, or persons who are undergoing chemotherapy.

Is there a treatment for cryptosporidiosis?

There is no definitive treatment for cryptosporidiosis. For persons with a normal immune system, the disease goes away on its own. For persons with AIDS, some drugs may treat the disease or at least relieve symptoms.

What steps can taken to prevent cryptosporidiosis?

- Avoid swallowing lake, river and swimming pool waters.
- Avoid fecal contamination of the hands or mouth during sex.
- If you have cryptosporidiosis yourself, wash your hands after using the toilet to prevent spreading the infection.
- If you are a caregiver of patients with cryptosporidiosis, wash your hands after bathing patients, emptying bedpans, changing soiled linen, or otherwise possibly coming in contact with the stools of patients.
- Wash your hands after using the toilet or changing diapers and before handling food. If you use gloves during diaper changing, change them between each child.
- Wash your hands after gardening or other contact with soil.

The decision as to whether to take any additional precautions rests with the individual.

If you have severe immune suppression (for example AIDS with a CD 4 count < 200) you may wish to further reduce your risk by treating your drinking water. This can be done by purchasing distilled water (not just bottled), boiling your water for 1 minute, or filtering it. Home filters must be those which state that they remove particles 1 micron (μ) or larger (not filters which claim to only remove lead, chlorine or tastes). Water filteration devices must be maintained strictly according to the manufacturer's instructions or they may aggravate rather than alleviate the risk.

Remember, if you choose to drink treated water you must also do so away from home. You should avoid ice and unheated beverages prepared from tap water such as fountain soft drinks (from machines, which dispense into a cup) and any juice prepared from concentrate. Coffee and tea are safe, except iced tea not prepared with boiling water may not be safe.

If you suspect that you have cryptosporidiosis...

See you physician as soon as possible, especially if your immune system is suppressed, so that the disease can be properly identified and monitored.

For more information about....

Cryptosporidiosis: Call the San Francisco Department of Public Health of Communicable Disease Control at 554-2830

Local drinking water quality: San Francisco Water Department at: 872-5954

July 1995

Adapted from CDHS Fact Sheet

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES
9 WEEK PERIOD ENDING 4/29/95

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 9 THROUGH 17			TOTAL CASES REPORTED TO DATE		
	1993	1994	1995	1993	1994	1995
AIDS	1,049	503	373	2,387	930	661
AMEBIASIS	38	45	56	73	83	96
CAMPYLOBACTERIOSIS	89	88	61	190	156	142
CHANCROID	0	0	0	0	0	0
CHLAMYDIAL INFECTIONS	634	439	337	845	785	662
GIARDIASIS	65	46	85	93	115	148
GONORRHEA	497	367	317	783	643	576
H. INFLUENZAE INVASIVE DISEASE	6	1	3	9	2	4
HEPATITIS Type A	42	32	73	78	52	128
HEPATITIS Type B	12	13	12	23	22	19
HEPATITIS Non A - Non B	1	0	0	3	0	0
LISTERIOSIS	4	0	2	4	1	5
LYME DISEASE	0	0	0	1	0	0
MALARIA	5	3	1	6	4	5
MEASLES	1	2	0	1	2	0
MENINGOCOCCAL INFECTIONS	1	0	2	1	3	5
PELVIC INFLAMMATORY DISEASE	43	21	11	64	48	32
PERTUSSIS	0	0	4	0	1	5
RUBELLA	0	0	1	0	0	2
SALMONELLOSIS	47	22	14	71	48	43
SHIGELLOSIS	34	24	34	68	54	77
SYPHILIS, Total	28	17	15	53	30	19
SYPHILIS, Primary & Secondary	10	8	7	22	15	9
TUBERCULOSIS	62	55	49	119	96	83
TYPHOID FEVER	0	1	3	0	1	3
TOTAL DEATHS REPORTED THIS PERIOD	1,361	1,426		2,792	2,668	
Deaths from pneumonia and influenza	36	171		99	322	
Medical Examiner cases	240	270		505	560	
Drug-related cases	40	54		95	88	
Cocaine-related cases	19	27		50	34	

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

25 Tuberculosis in San Francisco, 1994

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Tuberculosis In San Francisco, 1994

1994 saw the first substantial decrease in tuberculosis (TB) incidence in San Francisco since 1989. The 280 new cases of active TB reported in 1994 was the lowest number reported since 1984. Decreases occurred among both foreign-born and U.S. born cases. The 21% decline in S.F. cases compares with a 6% decline in California cases and a 3% decline in U. S. cases in 1994.

TB/HIV: In 1994, 67 patients with TB (24% of all reported cases) also had AIDS (Figure 1). Since 1988, between 20% and 25% of all reported TB cases have had AIDS. HIV-related TB has occurred predominantly among U.S.-born persons. In 1994, of the 101 U.S.-born TB cases, 48% were known to be HIV seropositive. The majority of patients with a dual diagnosis of TB and AIDS remain non-Hispanic white (52%), with a median age of 38.

Country of Birth: In 1994, 64% of new active cases of TB occurred among the foreign-born. The absolute number of foreign-born cases declined by 25%. Decreases were seen among foreign-born Chinese, Filipino and Southeast Asian persons as well as among foreign-born Hispanic cases. The decrease was seen throughout the year, and not concentrated in the final quarter, and thus the role of California's proposition 187 in this decline, if any, is unclear. Proposition 187 was a state ballot initiative which denies undocumented persons access to publicly funded education, health care and social services. U.S.-born cases also declined by 14% in 1994, to 101 cases, the lowest number since 1985 (Figure 2).

Age: TB case rates by age in 1994 showed the highest rate (56/100,000) among persons over 44 years of age. The TB rate among 25-44 year olds was only slightly lower (42/100,000) (Figure 3). For children under 15 years of age, the case rate of 6/100,000 was the lowest ever recorded in San Francisco. Only 6 cases of active TB occurred in children less than 15 years old.

Race/Ethnicity: Rates of TB in all racial/ethnic groups declined in 1994. Although case rates among Asian-Americans had risen in 1991, 1992, and 1993, that trend reversed in 1994, with decreases seen among Chinese, Filipino, and Southeast Asian communities (Table 1). Among African-Americans, the substantial decrease in cases and case rates first noted in 1993 continued through 1994 (Figure 4). Hispanic cases also declined, as did non-Hispanic white cases, although less markedly.

Drug Resistance: Of the 280 new active cases of TB reported in 1994, 242 had positive cultures for *M. tuberculosis*. Susceptibility testing on these 242 cultures showed that 13% were resistant to at least one drug. INH, with 7.8% of isolates showing resistance, was the drug to which resistance was most frequently documented. Streptomycin resistance was seen in 6.1% of isolates; Rifampin resistance in 3.7% and Ethambutal in 1.6%. MDR-TB, defined as resistance to at least INH and Rifampin, was seen in 5 cases, or 2.1% of isolates. All 5 cases were foreign-born. A comparison of 1992, 1993, and 1994 drug resistance is shown in Table 2.

To report a known or suspected case of tuberculosis, please phone, FAX, or mail a CMR card to:

TB Control Division of San Francisco Department of Public Health
San Francisco General Hospital, Ward 94
1001 Potrero Avenue, San Francisco, CA 94710
Phone: (415) 206-8524 Fax: (415) 648-8369

For information about the diagnosis and treatment of TB & TB infection, contact the San Francisco TB Control Division at (415)206-8524 or the TB Warmline at (415) 502-4700.

(Table 1)

TB CASES IN SAN FRANCISCO BY ETHNIC GROUP, 1990-94

ETHNIC GROUP	1990 (N=334)		1991 (N=333)		1992 (N=355)		1993 (N=356)		1994 (N=280)	
	#	%	#	%	#	%	#	%	#	%
Asian	156	47%	161	48%	167	47%	188	53%	150	54%
Chinese	76		77		75		90		79	
Filipino	47		46		60		61		51	
SE Asian	21		29		17		27		11	
Other Asian	12		9		15		10		9	
White	91	27%	67	20%	73	21%	59	17%	55	19%
African Amer.	51	15%	64	19%	65	18%	52	15%	41	15%
Hispanic	33	10%	34	10%	48	14%	49	13%	32	11%
Other	3	1%	7	2%	2	1%	7	2%	2	1%

(Table 2)

Drug Resistance in Culture-positive TB Cases Diagnosed in 1992 - 94

DRUG	1992 N= 286 % Resistant	1993 N= 318 % Resistant	1994 N= 242 % Resistant
INH	9.7%	12.5%	7.8%
Rifampin	3.4%	1.5%	3.7%
Ethambutol	1.7%	0.3%	1.6%
Strep	3.8%	5.0%	6.1%
PZA	0.6%	2.2%	0.8%
Any Drug	12.2%	17.2%	12.8%
MDR (INH+Rif)	2.0%	0.9%	2.1%

Figure 1

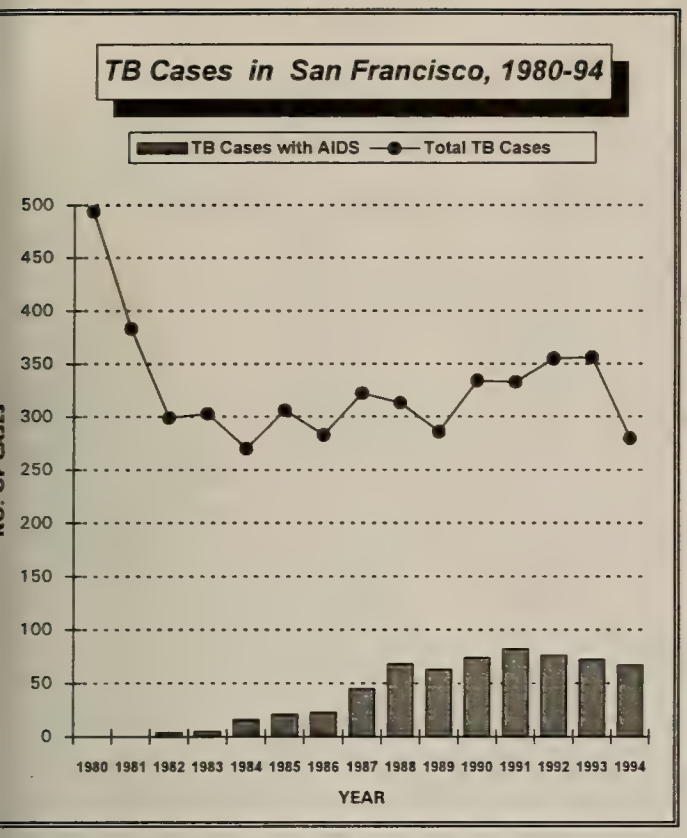


Figure 2

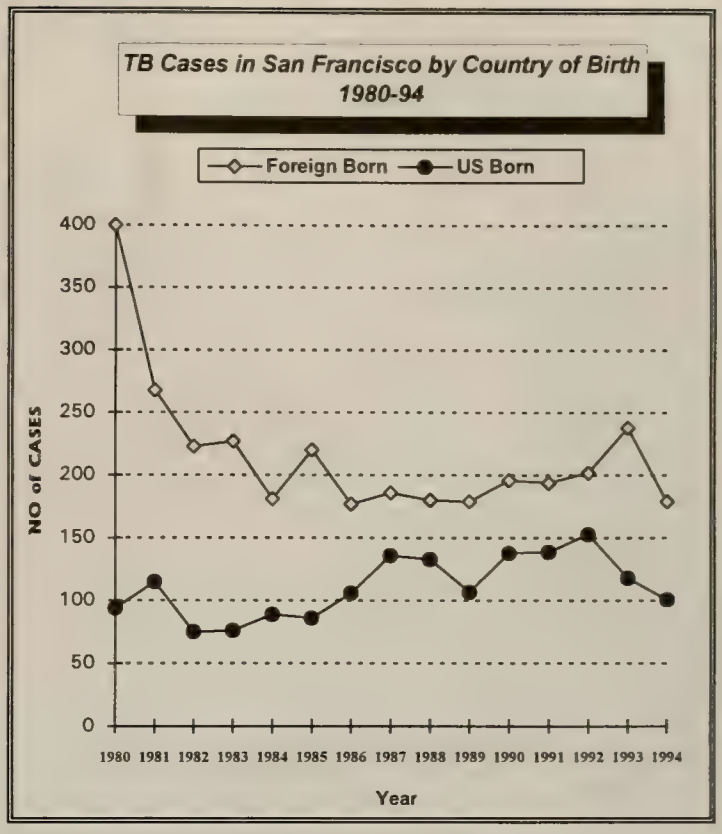


Figure 3

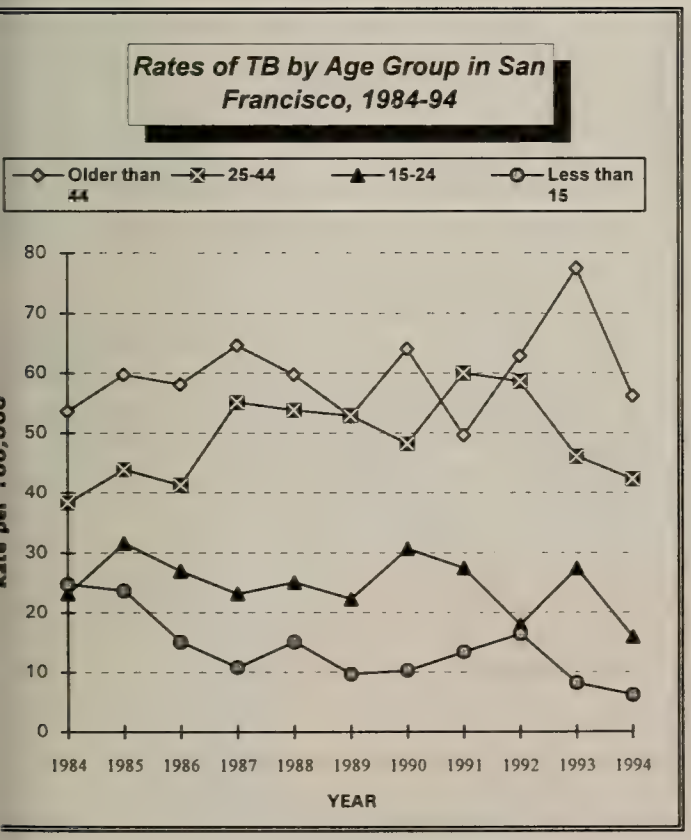
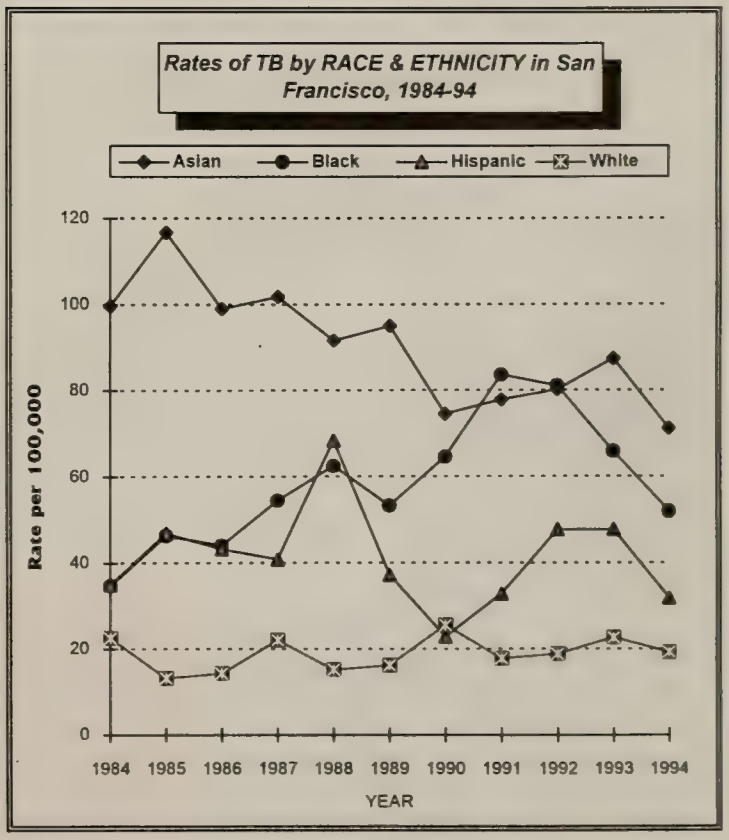


Figure 4



CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

9 WEEK PERIOD ENDING 7/1/95

POPULATION 1990 CENSUS: 723,959

	DISEASE	CASES REPORTED WEEKS 18 THROUGH 26			TOTAL CASES REPORTED TO DATE		
		1993	1994	1995	1993	1994	1995
	AIDS	859	354	303	3,246	1,284	964
	AMEBIASIS	29	48	42	102	131	138
	CAMPYLOBACTERIOSIS	124	134	59	314	290	201
	CHANCROID	0	0	0	0	0	0
	CHLAMYDIAL INFECTIONS	384	599	227	1,229	1,384	889
	GIARDIASIS	41	77	71	134	192	219
	GONORRHEA	401	424	265	1,184	1,067	841
*	H. INFLUENZAE INVASIVE DISEASE	1	3	18	10	5	22
	HEPATITIS Type A	30	33	74	108	85	202
	HEPATITIS Type B	16	16	8	39	38	27
	HEPATITIS Non A - Non B	1	0	0	4	0	0
	LISTERIOSIS	0	0	8	4	1	13
	LYME DISEASE	0	0	0	1	0	0
	MALARIA	2	4	3	8	8	8
	MEASLES	2	0	1	3	2	1
*	MENINGOCOCCAL INFECTIONS	0	1	12	1	4	17
	PELVIC INFLAMMATORY DISEASE	29	18	8	93	66	40
	PERTUSSIS	0	6	7	0	7	12
	RUBELLA	0	0	1	0	0	3
	SALMONELLOSIS	25	22	18	96	70	61
	SHIGELLOSIS	39	32	55	107	86	132
	SYPHILIS, Total	29	16	1	82	46	20
	SYPHILIS, Primary & Secondary	16	10	1	38	25	10
	TUBERCULOSIS	66	48	56	185	144	139
	TYPHOID FEVER	1	1	1	1	2	4
	TOTAL DEATHS REPORTED THIS PERIOD	1,316	1,295		4,108	3,963	
	Deaths from pneumonia and influenza	124	141		223	463	
	Medical Examiner cases	267	277		772	837	
	Drug-related cases	53	38		148	126	
	Cocaine-related cases	27	21		77	55	

* Increases due to reporting artifact

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Breast Cancer in San Francisco

Background. Breast cancer is the most commonly diagnosed cancer among women in the United States. As a cause of cancer death in women, breast cancer ranks second only to lung cancer. In 1992, the American Cancer Society (ACS) estimated that one out of every nine women in the United States will develop breast cancer within her lifetime (1). The incidence of breast cancer in the United States increased by 52% between 1950-1990 to approximately 109 cases per 100,000 women per year (2). The overall incidence in California is similar at 106 cases per 100,000 women per year (1992 data) (3). Total and race/ethnicity specific incidence and mortality for California and several Bay Area counties are shown in Table 1. Of note, the race/ethnicity specific incidence rates in San Francisco are elevated for all groups, although the increase was only statistically significant among white women. A recent report from the San Francisco Department of Public Health (SFDPH) has documented a significantly increased incidence of breast cancer in the Bayview/Hunters Point community when compared to San Francisco or to the Bay Area. This increased incidence occurred in African-American women under the age of 50 (4).

Risk Factors. The biology of breast cancer is poorly understood. Known risk factors, which include female gender, older age, family history of breast cancer, race/ethnicity, early menarche, late menopause, late age at first full-term pregnancy, nulliparity, history of benign proliferative breast disease, and exposure to ionizing radiation, account for only about 30% of breast cancer cases. In older age groups, white women have the highest risk of breast cancer. For women under the age of 45, the incidence in blacks exceeds that of whites. Native American, Hispanic and Asian women have lower risk. A very high incidence in Native Hawaiian women has been reported (5,6,7,8)

Many authors have suggested that environmental exposures might contribute to the approximately 70% of breast cancers which are not explained by currently understood risk factors (5,9). The development of breast cancer is known to be influenced by hormonal factors. The fact that many environmental contaminants such as organochlorine pesticides have estrogenic properties provides a theoretical link between toxic exposures and breast cancer. DDT and other organochlorine pesticides have been implicated in numerous reproductive health problems in animals (9,10). Studies comparing levels of DDE (a metabolite of DDT) in breast cancer patients compared to controls have had differing results (11,12,13). The potential role of environmental organochlorines in breast cancer has not been resolved and is the subject of ongoing research (14). Studies of other environmental exposures such as electromagnetic fields have yielded mixed results (15). Unfortunately, demonstrating a clear association between breast cancer and environmental agents is very difficult. First, because current understanding of breast cancer is incomplete, issues such as how environmental agents affect breast tissue, or when environmental exposures are most dangerous are not well understood. Second, quantifying exposure to environmental agents is challenging, especially when that exposure may have occurred many years in the past. Third, there is an overwhelming variety of potential toxins in the environment.

Prevention. The opportunities for primary prevention of breast cancer are limited because most of the known risk factors are unavoidable. Currently, the most important preventive measures for breast cancer involve early diagnosis (secondary prevention). When breast cancer is discovered early, treatment is much more likely to be successful. Techniques for early detection of breast cancer include breast self-exam (BSE), clinical breast exam (CBE), and mammography. BSE has several advantages. It is safe and inexpensive, and it can be done with greater frequency than either of the other two measures. While the ability of BSE to reduce breast cancer mortality remains controversial, the American Cancer Society recommends monthly BSE for all women over the age of 20 (16). CBE by a trained provider is also safe and inexpensive, and has the added benefit of being a bridge to other preventive health measures such as health education, immunization, cervical cancer screening, blood pressure measurement, and dietary assessment. The ACS recommends CBE every 3 years for women 18 years and older and annually for women over 40 years. Mammography is a more sensitive tool, but it involves higher cost, and for younger women it has low specificity. There has been considerable debate about the age at which women should begin having routine screening mammograms. The available evidence shows a clear benefit for women over the age of 50. For women between the ages of 40 and 50, an individualized approach which takes into account the woman's risk factors, beliefs, and desires has been suggested. Women in this age group should consult with their physicians to develop an appropriate screening plan (17).

In 1992, a nationwide survey documented the use of CBE and mammography (18). The results are presented in Table 2. Of note, poor women and women with lower education levels were less likely to have been screened. Use of both clinical breast examination and mammography in the year preceding the study was somewhat higher in California with 58.5% of women over 50 reporting CBE, 53.7% of women reporting mammography and 45.3% of women reporting both exams (18).

SFDPH Breast Cancer Control Efforts. Through its network of community clinics and San Francisco General Hospital, the SFDPH provides comprehensive medical care including screening, diagnostic evaluation, and treatment for breast cancer. These services are available to all women in San Francisco, regardless of ability to pay. The efforts of the SFDPH to control breast cancer have been enhanced by participation in the San Francisco Breast and Cervical Cancer Control Program (BCCCP). BCCCP is a special program funded by the California Department of Health Services to provide breast and cervical cancer education, screening, and follow-up. These efforts are especially directed at poor women in order to address the lower breast and cervical cancer screening rates in that group. BCCCP is a collaboration between the SFDPH and a number of community groups including the Women's Cancer Network of San Francisco, the American Cancer Society, En Acción Contra el Cáncer, the BACCIS project (Breast and Cervical Cancer Information and Services, a program of the Northern California Cancer Center), the Cancer Support Community, the Tobacco Free Project, Mission Neighborhood Health Center, and Northeast Medical Services.

BCCCP has two components related to breast cancer. The funding component of BCCCP pays for breast cancer screening, diagnostic, and follow-up services for women over the age of 40 who are underinsured and whose incomes are less than 200% of the poverty line. The public education component of BCCCP seeks to raise awareness about breast health and the early detection of breast cancer in the community at large. Outreach to recruit eligible women for BCCCP services is also a priority of the program. BCCCP funds two outreach workers in San Francisco, one who works primarily with the Hispanic community and another who works primarily with the African-American community. Breast Health Days, community outreach at such places as supermarkets, banks and beauty parlors, and community based BSE education are some of the activities carried out by the program. BCCCP has also been very involved in the organization of October as

Breast Health Awareness Month in San Francisco.

Editorial Comment. While the overall San Francisco breast cancer mortality rate is close to the Healthy People Year 2000 national objective, the rates for both black and white women are substantially higher than that objective. Furthermore, white women have a mortality rate which is significantly higher than state and national levels. While the mortality rate for black women is also higher than state and national levels, that difference does not reach statistical significance. At present, the primary tools for reducing breast cancer mortality, namely CBE and mammography, are underutilized nationwide, particularly among poor women and women with less formal education.

The SFDPH is committed to improving the breast health of the city's residents. The department is working with members of the Bayview/Hunters Point community to address the increased breast cancer incidence in that area. In order to assure that all women in San Francisco have access to appropriate screening and treatment for breast cancer, the department will continue to work to educate the community about the importance of breast cancer, and empower the women of San Francisco to optimize their breast health.

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Table 1. Female breast cancer, age adjusted rates/100,000, 1988-1992 average

All Races

	US+	CA	ALAMEDA	CONTRA COSTA	SF	SANTA CLARA
Incidence (Annual Rate)	109	107	111	112*	105	108
Mortality (Annual Rate)	27.0	25.8	27.1	27.3	25.8	24.4

Asian/Other

	US	CA	ALAMEDA	CONTRA COSTA	SF	SANTA CLARA
Incidence (Annual Rate)	N/A	60.4	70.5*	74.5*	63.1	53.3
Mortality (Annual Rate)	N/A	12.6	16.1	13.5	12.3	12.6

Black

	US	CA	ALAMEDA	CONTRA COSTA	SF	SANTA CLARA
Incidence (Annual Rate)	95.8	98.5	98.4	114	112	120
Mortality (Annual Rate)	31.9	33.1	30.7	34.3	41.7	27.6

Hispanic

	US	CA	ALAMEDA	CONTRA COSTA	SF	SANTA CLARA
Incidence (Annual Rate)	N/A	69	89.8*	97.7*	77.7	81.2*
Mortality (Annual Rate)	N/A	17.8	23.3	19.3	16.8	16.6

White

		CA	ALAMEDA	CONTRA COSTA	SF	SANTA CLARA
Incidence (Annual Rate)	112.7	119	124	129*	134*	121
Mortality (Annual Rate)	26.8	28.0	28.7	28.5	32.7*	27.5

*Significantly higher or lower than the State
+US incidence data is for 1990, mortality data for 1991
N/A Not available

Sources: Reference 2, 3, and SEER Cancer Statistics Review, 1973-1990. Miller, B.A., et al. (eds). Bethesda, MD: U.S. Dept. of Health and Human Services, 1993.

TABLE 2. Percentage of women aged ≥50 years who reported having had a screening[1] mammogram, a screening clinical breast examination[2] or both during the year preceding the interview, by age group, race/ethnicity,[3] level of education,[4] and income--Behavioral Risk Factor Surveillance System, 1992.[5]

		Mammogram		Clinical breast examination		Both examinations	
Category	Sample size	%	(95% CI)[6]	%	(95% CI)	%	(95% CI)
Age group (yrs)							
50-54	3,435	50.8	(+/-2.4)	63.7	(+/-2.3)	45.2	(+/-2.4)
55-59	3,099	51.6	(+/-2.6)	61.3	(+/-2.5)	45.2	(+/-2.6)
60-64	3,248	48.2	(+/-2.5)	58.4	(+/-2.5)	42.2	(+/-2.5)
65-69	3,420	47.7	(+/-2.5)	57.5	(+/-2.4)	41	(+/-2.5)
70-74	3,246	45.7	(+/-2.5)	55.7	(+/-2.5)	39	(+/-2.5)
>=75	5,153	35.6	(+/-1.9)	50.4	(+/-2.0)	29.1	(+/-1.8)
Race/Ethnicity							
White, non-Hispanic	18,694	46.3	(+/-1.0)	57.8	(+/-1.0)	40.1	(+/-1.0)
Black, non-Hispanic	1,688	45.3	(+/-3.5)	58	(+/-3.5)	38.4	(+/-3.4)
Hispanic[7]	670	44.7	(+/-5.7)	52.8	(+/-5.7)	38.6	(+/-5.6)
Education (yrs)							
<12	5,911	35.4	(+/-1.8)	46.7	(+/-1.9)	27.9	(+/-1.7)
12	7,940	47.7	(+/-1.6)	59.3	(+/-1.6)	41.4	(+/-1.6)
>12	7,679	52.3	(+/-1.7)	63.6	(+/-1.6)	46.8	(+/-1.7)
Annual income							
<$10,000	5,206	34.3	(+/-2.0)	47.9	(+/-2.1)	28.4	(+/-1.9)
$10,000-$20,000	4,986	43.9	(+/-2.1)	55.8	(+/-2.0)	36.8	(+/-2.0)
>$20,000	7,232	54.1	(+/-1.7)	64.9	(+/-1.6)	48.3	(+/-1.7)
Unknown/ Refused	4,177	45.7	(+/-2.2)	55.2	(+/-2.2)	38.8	(+/-2.2)
Total	21,601	46.1	(+/-1.0)	57.5	(+/-1.0)	39.8	(+/-1.0)

[1]Defined as an examination that was part of a routine check-up.
[2]An examination during which a doctor, nurse, or other medical professional felt the breast for lumps.
[3]A total of 549 respondents identified themselves as other than black, white, or Hispanic; the numbers in the "other" category were too small for analysis.
[4]A total of 71 respondents refused to provide years of education or reported that they did not know; the numbers were too small for analysis.
[5]Aggregated, weighted data.
[6]Confidence interval.
[7]Persons of Hispanic origin may be of any race.

Source: see reference 18

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

9 WEEK PERIOD ENDING 9/2/95

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 27 THROUGH 35			TOTAL CASES REPORTED TO DATE		
	1993	1994	1995	1993	1994	1995
AIDS	613	336	335	3,859	1,620	1,299
AMEBIASIS	47	43	58	149	174	196
CAMPYLOBACTERIOSIS	116	109	72	430	400	327
CHANCROID	0	0	0	0	0	0
CHLAMYDIAL INFECTIONS	389	340	367	1,618	1,724	1,256
GIARDIASIS	82	66	52	216	258	271
GONORRHEA	377	379	288	1,561	1,446	1,129
H. INFLUENZAE INVASIVE DISEASE	4	0	5	14	5	27
HEPATITIS Type A	28	84	64	136	169	266
HEPATITIS Type B	9	13	11	48	51	38
HEPATITIS Non A - Non B	0	0	1	4	0	1
LISTERIOSIS	1	0	1	5	1	14
LYME DISEASE	1	1	1	2	1	1
MALARIA	4	3	4	12	11	12
MEASLES	0	0	0	3	2	1
MENINGOCOCCAL INFECTIONS	0	4	3	1	8	20
PELVIC INFLAMMATORY DISEASE	31	19	12	124	85	52
PERTUSSIS	0	0	2	0	7	14
RUBELLA	0	0	0	0	0	3
SALMONELLOSIS	35	39	47	131	109	108
SHIGELLOSIS	54	52	69	161	138	201
SYPHILIS, Total	26	10	13	108	56	33
SYPHILIS, Primary & Secondary	8	3	8	46	28	18
TUBERCULOSIS	58	45	47	243	189	186
TYPHOID FEVER	1	0	0	2	2	4
TOTAL DEATHS REPORTED THIS PERIOD	1,268	1268		5,376	5,231	
Deaths from pneumonia and influenza	99	136		322	599	
Medical Examiner cases	239	280		1,011	1,117	
Drug-related cases	47	60		195	186	
Cocaine-related cases	25	31		102	86	

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Vol. 11 Nos. 11/12 Nov./Dec. 1995

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

35 Sexually Transmitted Diseases Update, San Francisco 1995
39 STD/HIV Prevention Training Center: Announcements

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Sexually Transmitted Diseases Update, San Francisco, 1995

Background. Title 17 of the California Administrative Code requires all clinicians treating patients suspected to have a sexually transmitted disease (STD) and all laboratories with a test result or isolate suggesting a reportable STD agent to report their findings to the health department. The list of STDs reportable in California was last revised in 1989, and now includes syphilis of any stage, gonorrhea, chlamydia, chancroid, pelvic inflammatory disease (PID), and non-gonococcal urethritis (NGU). Reports of morbidity must include the patient's name and address as well as demographic information (gender, age, and race or ethnicity).

Trends. With the exception of a negligible increase in chlamydia cases in 1992, reported totals for all major STDs in San Francisco declined every year for the past four years (Table 1). Gonorrhea cases have decreased by 57 percent since 1990, while early syphilis cases have declined by 90 percent; each of these diseases are at their lowest levels since 1955. Most gonorrhea and adult syphilis rates have met *Healthy People for the Year 2000* objectives (Table 2), while congenital syphilis and chlamydia rates still exceed the targeted rates.

Decreases in gonorrhea and syphilis seen in San Francisco over the past five years have been much greater than those seen in other areas. The early syphilis rate for the United States as a whole decreased by only 25.0 percent since 1990. While San Francisco has experienced a modest decrease (4.5 percent) in its chlamydia rate for the past four years, rates have increased for California and the U.S. as a whole. Increases are likely to be surveillance artifacts due to increased testing and increased surveillance of chlamydia throughout this state and the nation (1). Chlamydia trends may be more meaningful in San Francisco since surveillance activities and testing practices have not changed here over the past four years.

In 1993 the rates for gonorrhea and chlamydia in San Francisco were higher than the total rates for the United States but the rate for early syphilis was lower (Table 3). All STD rates in San Francisco are higher than overall rates for California. Though these differences may be partially due to the inclusion of many rural areas in overall rates, the rates for gonorrhea and chlamydia for San Francisco are also higher than the rates for New York City and for Los Angeles.

Rectal gonorrhea cases among males — a marker of unprotected sexual activity among gay and bisexual men — slightly increased over 1993. Seventy cases were reported in 1994 compared with 66 in 1993.

Of the 222 total syphilis cases reported in 1994, nearly two-thirds were late latent cases (146, 65.8 percent of total). The proportion of symptomatic cases (i.e., primary or secondary stage) has fallen from 41.4 percent in 1990 to only 17.6 percent in 1993. Seventeen (17) cases were classified as early latent disease, but another 14 latent cases were classified as unknown duration; these were likely to be early cases due to the patient's age (under 30 years old) and initial titer (1:32 or higher).

Chlamydia cases have decreased much less than gonorrhea and syphilis in San Francisco over the past five years. Chlamydia reports peaked at 2670 cases (368.8 per 100,000) in 1990, one year after chlamydia became reportable in California; in 1994, 2156 cases were reported (297.8 per 100,000), a decrease of 19.3 percent over the past five years.

Demographics. The relative order of race/ ethnic specific rates is the same for gonorrhea, early syphilis, and chlamydia (Table 4): rates for African Americans are highest, five to ten times the rates for whites; rates for whites and Asians and Pacific Islanders are lowest; and rates for Native Americans and Hispanics are between whites and blacks. Aside from changes in the position of rates for Native Americans due to the number of cases in this small population, this order has remained the same for each disease over the past five years.

The overall trends in STD rates -- decreases in gonorrhea and syphilis cases, and small increases in chlamydia cases -- have also been seen within each race and ethnicity, with the exception of a steady increase in the incidence of gonorrhea among Native Americans. Decreases in gonorrhea and early syphilis rates have been greater for African Americans, however (54.0) percent for gonorrhea and 94.0 percent for syphilis), which has decreased the ratio of rates for African Americans to rates for whites.

STD rates are highly dependent on age (Table 5). Rates of gonorrhea and chlamydia are highest among 15-19 year-olds and decrease with age, while early syphilis rates peak among 20-24 year-olds. No age-specific differences in STD trends over time have been seen for the past five years: similar decreases in rates have been seen in all age groups.

STD rates tend to be highest in the southeast corner of the City (i.e., West Hunter's Point, Bayview, and Visitation Valley) and lowest in the northwest (the Sunset and Richmond districts), though rates are also high downtown and in the Western Addition. Each STD follows this same distribution: different STDs do not appear to be focused in different neighborhoods. STD trends for each neighborhood over the past five years follow the overall decreasing trend for the City as well.

Discussion. Because most reportable bacterial STDs have a short incubation period, most reports are incident cases, and the rates may therefore be considered incidence rates. Rates should be used when comparing STD levels among different populations, as differences in disease totals are effected by the size of the population as well as its incidence of STD.

In practice, many STD diagnoses go unreported, especially from private health care providers. Furthermore, many men and women with STDs are never diagnosed, either because they have no access to health care, or because they do not recognize their symptoms as an STD or do not develop symptoms at all. This is particularly true for chlamydia, a disease which is often asymptomatic and for which a reliable and inexpensive test is not yet available. For these reasons, reported totals should be considered minimal estimates of the true number of STDs in the community.

Many changes have occurred in San Francisco during the past decade, which makes it difficult to determine exactly why STD rates have been falling. A number of safe sex education campaigns have been conducted in the City by the health department and community based agencies, in addition to national efforts. The STD Control Division has developed screening programs, partner referral programs, and client-centered counseling for City Clinic patients. The STD/HIV Prevention/ Training Center coordinated by the health department has increased awareness of STDs for clinicians and improved their diagnostic and treatment skills. It is likely that some or all of these have contributed to the decreases in STD rates we have seen.

References

1. Division of STD/HIV Prevention. Sexually Transmitted Disease Surveillance, 1992. US Department of Health and Human Services, Public Health Service. Atlanta: Centers for Disease Control and Prevention, July, 1993, p21.

Table 1. Reportable STD cases and rates, San Francisco, 1990-1994. Rates equal cases per 100,000 1990 residents per year, except for NGU (rates equal cases per 100,000 men), PID (cases per 100,000 women), and congenital syphilis (cases per 100,000 live births).

	Reported cases					Incidence rate				
	1990	1991	1992	1993	1994	1990	1991	1992	1993	1994
Diagnosis is										
GONORRHEA	3,848	3,134	2,715	2,083	1,894	531.5	432.9	375.0	287.7	261.6
---MALE RECTAL GONORRHEA	151	118	83	66	70	41.7	32.6	22.9	18.2	19.3
CHLAMYDIA	2,670	2,257	2,259	2,231	2,156	368.8	311.8	312.0	308.2	297.8
SYPHILIS (TOTAL)	857	642	427	296	228	118.4	88.7	59.0	40.9	31.5
---PRIMARY	180	78	41	27	19	24.9	10.8	5.7	3.7	2.6
---SECONDARY	175	82	54	41	21	24.2	11.3	7.5	5.7	2.9
---(TOTAL P&S)	355	160	95	68	40	49.0	22.1	13.1	9.4	5.5
---EARLY LATENT	216	155	40	27	17	29.8	21.4	5.5	3.7	2.3
---(TOTAL EARLY)	571	315	135	95	57	78.9	43.5	18.6	13.1	7.9
---UNKNOWN LATENT	2	1	75	45	15	0.3	0.1	10.4	6.2	2.1
---LATE LATENT	265	313	209	144	150	36.6	43.2	28.9	19.9	20.7
---LATE DISEASE	1	2	0	0	0	0.1	0.3	0.0	0.0	0.0
---NEUROSYPHILIS	18	11	8	12	6	2.5	1.5	1.1	1.7	0.8
CONGENITAL SYPHILIS (TOTAL)	22	14	5	8	6	218.1	141.5	52.3	86.3	66.4
---CONGENITAL	22	12	5	7	6	218.1	121.3	52.3	75.5	66.4
---STILLBIRTHS	0	2	0	1	0	0.0	20.2	0.0	10.8	0.0
PID (ALL)	338	214	196	191	201	93.5	59.2	54.2	52.8	55.6
---DEFINED	0	0	0	12	90	0.0	0.0	0.0	3.3	24.9
---CHLAMYDIAL	65	31	31	24	23	18.0	8.6	8.6	6.6	6.4
---GONOCOCCAL	150	48	40	24	23	41.5	13.3	11.1	6.6	6.4
---NON-SPECIFIC	123	135	125	131	65	34.0	37.3	34.6	36.2	18.0
NON-GONOCOCCAL URETHRITIS	1,172	1,520	1,455	1,017	779	323.3	419.3	401.4	280.6	214.9
CHANCROID (ALL)	55	26	17	3	4	7.6	3.6	2.3	0.4	0.6
---CONFIRMED	35	2	1	0	2	4.8	0.3	0.1	0.0	0.3
---PRESUMPTIVE	20	24	16	3	2	2.8	3.3	2.2	0.4	0.3
GRANULOMA INGUINALE	1	0	0	0	0	0.1	0.0	0.0	0.0	0.0
LYMPHOGRANULOMA VENEREUM	4	1	0	2	2	0.6	0.1	0.0	0.3	0.3

Table 2. 1994 San Francisco STD rates compared with Healthy People for the Year 2000 STD Objectives.

Disease	Year 2000 Objecitve	1994 SF rate
19.1 Gonorrhea	225	261.6
a. blacks	1300	1332.1
b. adolescents	750	1015.2
c. women 15-44	290	348.1
19.2 Chlamydia	170	297.8
19.3 P&S Syphilis	10	5.5
a. blacks	65	23.6
19.4 Congenital syphilis	50	66.4

Table 3. 1993 San Francisco STD rates compared with rates from other regions. (1994 rates not available for other regions)

	Chlamydia		Early syphilis		Gonorrhea	
	cases	*rate*	*cases*	*rate*	*cases*	*rate*
US	393,183	167.9	68,401	26.8	439,673	172.4
California	64,247	207.5	3,644	11.8	29,970	96.8
New York City	15,320	207.5	4,901	66.3	19,240	260.6
Los Angeles	14,728	172.3	2,286	26.7	11,015	128.8
San Francisco	2,231	308.2	95	13.1	2,083	287.7

Table 4. 1994 San Francisco STD rates by race and ethnicity.

	Cases of					
	CHLAMYDIA		GONORRHEA		EARLY SYPHILIS	
	cases	rate	cases	rate	cases	rate
Race/ethnicity						
(ALL RACES)	2,156	297.8	1,894	261.6	57	7.9
ASIAN	245	119.1	52	25.3	5	2.4
BLACK	746	977.2	1,017	1332.1	25	32.7
HISPANIC	365	362.4	163	161.8	14	13.9
NATIVE AMERICAN	10	379.5	12	455.4	1	38.0
WHITE	273	81.0	387	114.8	11	3.3

Table 5. 1994 San Francisco STD rates by gender and age group.

		Cases of					
		CHLAMYDIA		GONORRHEA		EARLY SYPHILIS	
		cases	rate	cases	rate	cases	rate
Gender	Age						
(BOTH)	(ALL)	2,156	297.8	1,894	261.6	57	.7.9
	15-19 YRS	717	2027.6	359	1015.2	2	5.7
	20-24 YRS	643	1087.9	441	746.2	12	20.3
	25-29 YRS	397	489.3	355	437.5	10	12.3
	30-34 YRS	171	221.0	269	347.6	10	12.9
	35-39 YRS	72	102.8	205	292.6	7	10.0
	40-44 YRS	37	61.9	110	184.0	4	6.7
	45-54 YRS	24	32.1	74	98.8	7	9.4
	55-64 YRS	6	9.4	10	15.7	4	6.3
	65+ YRS	3	2.8	6	5.7	1	0.9
FEMALE	(ALL)	1,668	461.5	700	193.7	18	5.0
	15-19 YRS	604	3523.3	258	1505.0	1	5.8
	20-24 YRS	505	1702.9	188	634.0	5	16.9
	25-29 YRS	284	725.2	103	263.0	3	7.7
	30-34 YRS	114	317.9	42	117.1	4	11.2
	35-39 YRS	43	133.5	30	93.2	3	9.3
	40-44 YRS	22	79.1	12	43.1	1	3.6
	45-54 YRS	13	36.2	4	11.2	1	2.8
	55-64 YRS	5	15.2	1	3.0	0	0.0
	65+ YRS	1	1.6	1	1.6	0	0.0
MALE	(ALL)	488	134.6	1,194	329.4	39	10.8
	15-19 YRS	113	620.2	101	554.4	1	5.5
	20-24 YRS	138	468.6	253	859.1	7	23.8
	25-29 YRS	113	269.2	252	600.2	7	16.7
	30-34 YRS	57	137.2	227	546.6	6	14.4
	35-39 YRS	29	76.6	175	462.1	4	10.6
	40-44 YRS	15	46.9	98	306.5	3	9.4
	45-54 YRS	11	28.2	70	179.5	6	15.4
	55-64 YRS	1	3.3	9	29.3	4	13.0
	65+ YRS	2	4.7	5	11.9	1	2.4

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REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

8 WEEK PERIOD ENDING 10/28/95

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 36 THROUGH 43			TOTAL CASES REPORTED TO DATE		
	1993	1994	1995	1993	1994	1995
AIDS	483	289	261	4,342	1,909	1,560
AMEBIASIS	59	36	58	208	210	254
CAMPYLOBACTERIOSIS	107	112	99	537	512	426
CHANCROID	0	0	0	0	0	0
CHLAMYDIAL INFECTIONS	347	323	257	1,965	2,047	1,513
GIARDIASIS	60	79	94	276	337	365
GONORRHEA	306	295	257	1,867	1,741	1,386
H. INFLUENZAE INVASIVE DISEASE	2	2	4	16	7	31
HEPATITIS Type A	34	59	88	170	228	354
HEPATITIS Type B	19	10	1	67	61	39
HEPATITIS Non A - Non B	0	0	0	4	0	1
LISTERIOSIS	0	0	0	5	1	14
LYME DISEASE	0	0	0	2	1	1
MALARIA	1	2	2	13	13	14
MEASLES	1	0	1	4	2	2
MENINGOCOCCAL INFECTIONS	0	1	5	1	9	25
PELVIC INFLAMMATORY DISEASE	24	12	4	148	97	56
PERTUSSIS	4	2	3	4	9	17
RUBELLA	0	0	0	0	0	3
SALMONELLOSIS	49	39	34	180	148	142
SHIGELLOSIS	59	74	73	220	212	274
SYPHILIS, Total	23	7	9	131	63	42
SYPHILIS, Primary & Secondary	7	6	5	53	34	23
TUBERCULOSIS	58	45	38	301	234	224
TYPHOID FEVER	1	1	0	3	3	4
TOTAL DEATHS REPORTED THIS PERIOD	1,009	1,206		6,385	6,437	
Deaths from pneumonia and influenza	118	116		440	715	
Medical Examiner cases	228	294		1,239	1,411	
Drug-related cases	32	27		227	213	
Cocaine-related cases	11	11		113	97	

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Vol. 12 Nos. 1/2 (Jan./Feb. 1996)

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

1 Unexplained Illnesses and Deaths Surveillance: An Update from the California Emerging Infections Program
5 Revised Communicable Disease Reporting Requirements
6 Reportable Diseases and/or Conditions
7 Procedures for Communicable Disease Reporting

Unexplained Illnesses and Deaths Surveillance: An Update from the California Emerging Infections Program

Background. An outbreak of unexplained febrile illness associated with pulmonary hemorrhage and many deaths in Nicaragua has recently received worldwide recognition (1). Although this outbreak has not yet extended to the United States, its proximity and the recent outbreaks of other highly fatal illnesses such as *Hantavirus* pulmonary syndrome in the United States (2) and Ebola hemorrhagic fever in Zaire (3), remind us that surveillance for emerging infections within our own borders should remain a high priority.

In response to the call to address the emergence of new infectious diseases, the Centers for Disease Control and Prevention (CDC) has funded Emerging Infections Programs (EIPs) in four sites: Alameda, Contra Costa and San Francisco Counties in California; New Haven, Connecticut; Minnesota; and Oregon. In collaboration with the CDC, these programs began surveillance to detect and monitor deaths and critical illnesses that are clinically highly suggestive of being due to an infectious agent, but for which no etiology was found on routine testing.

The primary goals of this surveillance system are to characterize unexplained severe/fatal illnesses of possible infectious etiology both clinically and epidemiologically; to monitor their incidence over time; and to facilitate the collection, storage and processing of clinical and/or autopsy specimens that could be used to determine the infectious etiology of previously unexplained diseases. In addition to identifying causes of deaths for individuals, a specimen bank that may aid in the development of diagnostic tests, vaccines, and therapies for these diseases is being created. It is hoped that these efforts will enhance our ability to respond more efficiently in containing future infectious disease threats. This update describes the program's progress and presents a preliminary summary of the cases that have been reported to date in the four participating states.

Surveillance. During an eight month period, from May through December 1995, 39 cases of unexplained critical illnesses or deaths thought likely to be due to an infectious agent were reported across the four sites. For seventeen (44%) of the 39 patients, test or autopsy results that were pending at the time of the case report ultimately established the likely cause of illness. Examples of these illnesses (Table 1), illustrate that many had illnesses renown for their ability to elude recognition (e.g. lymphoma and disseminated tuberculosis). Other illnesses exemplify diseases that are encountered by clinicians only infrequently and may have a variety of unusual clinical manifestations. Finally, patients had illnesses resulting from common infectious agents for which there are not rapid diagnostic tests, such as *Mycoplasma pneumoniae*.

Unexplained Illnesses. The 26 remaining illnesses met the inclusion criteria of the surveillance system (Table 2). Twelve of 26 (46%) patients died; the median age of patients was 26 years (range 2-46); and 42% were male.

Clinical syndromes exhibited by these 26 patients are shown in Table 3. Severe respiratory disease (pneumonitis or ARDS) was the most common clinical syndrome reported for which no etiology

was found. Hepatitis with fulminant hepatic failure was the second most common clinical presentation. While a number of patients have had similar organ system involvement (e.g. meningitis, myocarditis, hepatitis), most had a distinct constellation of epidemiologic and clinical features and illnesses that were separated temporally and geographically.

Laboratory Investigation. Blood and/or tissue specimens were available for all 26 patients. CDC, state health department laboratories, and collaborating investigators are completing the first level of testing for the initial group of patients. Approaches being used include serologic assays, nucleic acid-based techniques, and histochemical assays for well-recognized but unusual or difficult-to-diagnose pathogens. The next phase of testing will include universal probes for bacteria as well contemporary testing strategies for unknown viral, parasitic, and fungal agents. Although results are generally not available quickly enough to affect the immediate care of an individual patient, any positive results yielded by this laboratory investigation will be communicated to the reporting physician.

Editorial Comment. This is an exciting start. Our initial results confirm that unexplained illnesses with features suggesting an infectious cause are occurring in all four regions under surveillance. While some of these illnesses appear to have overlapping clinical manifestations, an outbreak or temporal clustering of illnesses has not yet been detected.

It is important to note that it is very early in this investigation of unexplained illnesses. For this reason, the data presented here are preliminary. Because all cases are not reported, the numbers should be considered a minimal estimate. The epidemiologic features of such illnesses will be better described when surveillance has been in place longer and clinician reporting improves.

The spectrum of illnesses reported to the EIPs is broad and demonstrates the challenge in establishing the cause(s) of both infectious and noninfectious illnesses. Much of this difficulty is due to the absence of highly sensitive, clinically available tests. Identification of some infectious diseases is made difficult because presenting manifestations may be atypical or because the diagnosis was unexpected by the clinician.

An expected outcome of this project is the identification of diseases for which better or more rapid diagnostic tests are needed. Increased autopsy rates and clinical laboratory investigations may also lead to a more complete description of the burden of both known and unknown infectious diseases. Creation of a specimen bank of clinical specimens may prove invaluable for future diagnostic testing.

A critical objective of this surveillance system is to enhance communication among clinicians across California and other EIP sites. Communication about unusual and unexplained severe illnesses should be regularized so that patterns of illness and new syndromes will be appreciated, even when no one physician has seen more than a single case. With surveillance in place, we hope to find new pathogens and perhaps new syndromes caused by old pathogens. The key to the success of the EIPs will be community-wide efforts involving local health departments, hospitals, clinicians, infection control practitioners, laboratories, and researchers.

If you would like to report a case, please see the reporting information below. We look forward to hearing from you and welcome any opportunity to provide presentations regarding the Emerging Infections Program to your hospital or department.

REFERENCES

1. Centers for Disease Control and Prevention. Outbreak of Acute Febrile Illness and Pulmonary Hemorrhage-Nicaragua, 1995. MMWR 1995;44:841-843.

2. Centers for Disease Control and Prevention. Update: outbreak of Ebola viral hemorrhagic fever - Zaire, 1995. MMWR. 1995;44:399.

3. Centers for Disease Control and Prevention. Update: outbreak of hantavirus pulmonary syndrome- Southwestern United States,1993 MMWR, 1993;42:441-443.

Table 1. Case examples initially reported as unexplained illnesses/deaths with etiology later identified.

CLINICAL SYNDROME:	CLINICAL/ MICROBIOLOGIC/PATHOLOGIC DIAGNOSIS
Fever, neutropenia	**Lymphoma**
Respiratory failure / hepatitis/ thrombocytopenia	**Disseminated *M. tuberculosis***
Heart failure, Guillain Barre syndrome	**Arsenic poisoning**
Severe pneumonitis, stroke,	***Mycoplasma pneumoniae***

Table 2. Inclusion criteria for unexplained illnesses and deaths surveillance.

INCLUSION CRITERIA:

- Ages 1-49 years
- Previously healthy
- Admitted to hospital with or died from severe illness suggestive of infectious etiology
- No confirmed etiology
- Pathologic examination complete

EXCLUSION CRITERIA:

- Chronic medical condition(e.g. malignancy, AIDS, cirrhosis)
- Use of immunosuppressive medications
- Trauma
- Toxic ingestion
- Nosocomial onset (more than 48 hours after hospitalization)

Table 3. Clinical syndromes among patients with unexplained deaths and critical illnesses of possible infectious etiology reported in four EIP Sites, May 1995 through December 1995.

SYNDROME	N (%)
Pneumonitis/respiratory failure	**8 (31)**
Hepatitis/liver failure	**5 (19)**
Meningitis/meningoencephalitis	**3 (11.5)**
Multi-organ failure	**3 (11.5)**
Myocarditis	**3 (11.5)**
Multisystem disease/rash/fever	**2 (7.5)**
Blood cell dyscrasia/fever	**1 (4)**
Sepsis syndrome	**1 (4)**

TO REPORT UNEXPLAINED DEATHS OR CRITICAL ILLNESSES

Notify the California Emerging Infections Program within 24 hours of recognizing a case of critical illness or death in a previously healthy person resulting from what appears to be a community-acquired infection but which is unexplained after a basic infection work-up. The individuals listed below can be reached by telephone or pager weekdays and weekends.

To report a suspected case, please call:

Jennifer Flood, MD, MPH	pager: (415) 708-6312
Gretchen Rothrock, MPH	pager: (510) 765-9773
Arthur Reingold, MD	pager: (510) 720-3448

The Emerging Infections Program surveillance office number is:

San Francisco	(415) 281-3736
East Bay	(510) 451-1344

Errata: Vol. 11, Nos. 11/12, Nov./Dec. 1995. Please note that the article, "Sexually Transmitted Diseases Update, San Francisco 1995," incorrectly stated that the list of reportable STDs was last revised in 1989. The correct year is 1995.

Revised Communicable Disease Reporting Requirements

The State has completely revised sections 2500-2514 of Title 17 of the California Administrative Code, the requirements for reporting communicable diseases. This is a summary of the most important changes.

Medical Providers. The administrator of any facility where more than one healthcare provider works is directed to establish and be responsible for administrative procedures to assure that reports are made to the local health officer.

Reporting by fax is specifically mentioned as an option. Providers are cautioned that it is easy and not rare to mis-direct a fax.

The list of reportable diseases is expanded to add:

Anisakiasis
Babesiosis
Ciguatera poisoning
Colorado tick fever
Domoic acid poisoning
Echinococcosis
Ehrlichiosis
E. Coli 0157:H7
Hantavirus infections
Hepatitis C (specify acute or chronic)
Lymphocytic choriomeningitis
Paralytic shellfish poisoning
Scombroid fish poisoning
Swimmer's itch
Toxoplasmosis
Viral hemorrhagic fevers
Water-associated disease
Yersiniosis

Also added to the list were unusual diseases and outbreaks. These were previously reportable by other sections rather than included in the list.

Laboratory Reporting. Laboratory reporting is increased to require that the report include name, sex, and age or date of birth of the person from whom the specimen was obtained and name, address and telephone number of the original submitter. The laboratory which receives the original specimen is responsible for obtaining this information and including it with any specimens forwarded to other laboratories.

In addition to *Salmonella* isolates, malaria smears, and all *M. tuberculosis* isolates, TB specimans found to be resistant to isoniazid and rifampin must have a second isolate submitted to the public health laboratory of the jurisdiction where the submitting provider's office is located. Drug susceptibility testing of all *M. tuberculosis* isolates and reporting of results is required.

The list of laboratory reportable diseases is increased to include:

Cryptosporidiosis
Encephalitis, arboviral
Escherichia coli 0157:H7
Hepatitis A IgM or viral antigen positive
Hepatitis B IgM for core antibody
Hepatitis B surface antigen (specify gender)
Malaria
Measles (rubeola) IgM or viral antigen positivity

REPORTABLE DISEASES AND/OR CONDITIONS

(1) COMMUNICABLE DISEASES:

- Acquired Immune Deficiency Syndrome
- ✉ Amebiasis
- ✉ Anisakiasis
- ☎ Anthrax
- ✉ Babesiosis
- ☎ Botulism (Infant, Foodborne, Wound)
- Brucellosis
- ✉ Campylobacteriosis
- Chancroid
- Chlamydial Infections
- ☎ Cholera
- ☎ Ciguatera Fish Poisoning
- Coccidioidomycosis
- ✉ Colorado Tick Fever
- ✉ Conjunctivitis, Acute Infectious of Newborn, **(Specify Etiology)**
- ✉ Cryptosporidiosis
- Cysticercosis
- ☎ Dengue
- ☎ Diarrhea of the Newborn, Outbreaks
- ☎ Diphtheria
- ☎ Domoic Acid Poisoning- **Amnesic Shellfish Poisoning**
- Echinococcosis (Hydatid Disease)
- Ehrlichiosis
- ✉ Encephalitis **(Specify Etiology: Viral, Bacterial, Fungal, Parasitic)**
- ☎ *Escherichia coli* 0157:H7 Infection
- • ☎ Foodborne Disease
- Giardiasis
- Gonococcal Infections
- ✉ *Haemophilus influenzae*, Invasive Disease
- ☎ Hantavirus Infections
- ☎ Hemolytic Uremic Syndrome
- Hepatitis, Viral
  - ✉ Hepatitis A
  - Hepatitis B (specify acute or chronic)
  - Hepatitis C (specify acute or chronic)
  - Hepatitis D (Delta)
  - Hepatitis, other, acute
- Kawasaki Syndrome (Mucocutaneous Lymph Node Syndrome)
- Legionellosis
- Leprosy (Hansen Disease)
- Leptospirosis
- ✉ Listeriosis
- ✉ Lyme Disease
- ✉ Lymphocytic Choriomeningitis
- ✉ Malaria
- ☎ Measles (Rubeola)
- ✉ Meningitis **(Specify Etiology: Viral, Bacterial, Fungal, Parasitic)**
- ☎ Meningococcal Infections
- Mumps
- Non-Gonococcal Urethritis **(Exclu. Lab. Conf. Chlamydial Infect.)**
- ☎ Paralytic Shellfish Poisoning
- Pelvic Inflammatory Disease (PID)
- ✉ Pertussis (Whooping Cough)
- ☎ Plague, Human or Animal
- ✉ Poliomyelitis, Paralytic
- ✉ Psittacosis
- ✉ Q Fever
- ☎ Rabies, Human or Animal
- ✉ Relapsing Fever
- Reye Syndrome
- Rheumatic Fever, Acute
- Rocky Mountain Spotted Fever
- Rubella (German Measles)
- Rubella Syndrome, Congenital
- ✉ Salmonellosis (Other than Typhoid Fever)
- ☎ Scombroid Fish Poisoning
- ✉ Shigellosis
- ✉ Streptococcal Infections (Outbreaks of Any Type)
- ✉ Swimmer's Itch (Schistosomal Dermatitis)
- ✉ Syphilis
- Tetanus
- Toxic Shock Syndrome
- Toxoplasmosis
- ✉ Trichinosis
- ✉ Tuberculosis
- Tularemia
- ✉ Typhoid Fever, Cases and Carriers
- Typhus Fever
- ✉ Vibrio Infections
- ☎ Viral Hemorrhagic Fevers **(e.g., Crimean-Congo, Ebola)**
- ☎ Water-associated Disease
- ☎ Yellow Fever
- ✉ Yersiniosis

☎ OUTBREAKS OF ANY DISEASE **(Including diseases not listed in Section 2500).** Specify if institutional and/or open community.
OCCURRENCE OF ANY UNUSUAL DISEASE

(2) NON-COMMUNICABLE DISEASES OR CONDITIONS:

Alzheimer's Disease and Related Conditions
Disorders Characterized by Lapses of Consciousness

☎ = to be reported immediately by telephone.

✉ = to be reported by mailing a report, telephoning, or electronically transmitting a report within one (1) working day of identification of the case or suspected case.

• ☎ = When two (2) of more cases or suspected cases of foodborne disease from separate households are suspected to have the same source of illness, they should be reported immediately by telephone.

No telephone or mail symbol = to be reported within seven (7) calendar days by mail, telephone, or electronic report from the time of identification.

revised 4/10/96

Procedures for Communicable Disease Reporting

To report a known or suspected case of communicable disease, please phone, FAX or mail a CMR card to:

Acquired Immune Deficiency Syndrome (AIDS)

AIDS Office
San Francisco Department of Public Health
25 Van Ness, Suite 500
San Francisco, CA 94102
Phone: (415) 554-9050 FAX: please do not FAX

Sexually Transmitted Diseases (STDs)

San Francisco City Clinic
San Francisco Department of Public Health
356 7th Street
San Francisco, CA 94103
Attention: Surveillance
Phone: (415) 487-5555 FAX: (415) 431-4628

Tuberculosis (TB)

TB Control Division
San Francisco Department of Public Health
San Francisco General Hospital, Ward 94
1001 Potrero Avenue
San Francisco, CA 94110
Phone: (415) 206-8524 FAX: (415) 648-8369

Other Communicable Diseases

Communicable Diseases Division
San Francisco Department of Public Health
101 Grove Street, Room 402
San Francisco, CA 94102
Phone: (415) 554-2830 FAX: (415) 554-2848

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

9 WEEK PERIOD ENDING 12/30/95

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 44 THROUGH 52			TOTAL CASES REPORTED TO DATE		
	1993	1994	1995	1993	1994	1995
AIDS	464	279	282	4,806	2,188	1,842
AMEBIASIS	51	45	28	259	255	282
CAMPYLOBACTERIOSIS	88	103	133	625	615	559
CHANCROID	0	0	0	0	0	0
CHLAMYDIAL INFECTIONS	391	334	357	2,356	2,381	1,870
GIARDIASIS	71	70	45	347	407	410
GONORRHEA	339	290	318	2,206	2,031	1,704
H. INFLUENZAE INVASIVE DISEASE	1	1	1	17	8	32
HEPATITIS Type A	50	65	96	220	293	450
HEPATITIS Type B	8	10	11	75	71	50
HEPATITIS Non A - Non B	0	0	0	4	0	1
LISTERIOSIS	0	1	2	5	2	16
LYME DISEASE	0	0	0	2	1	1
MALARIA	1	1	2	14	14	16
MEASLES	0	0	0	4	2	2
MENINGOCOCCAL INFECTIONS	0	2	0	1	11	25
PELVIC INFLAMMATORY DISEASE	34	18	3	182	115	59
PERTUSSIS	0	3	6	4	12	23
RUBELLA	0	1	0	0	1	3
SALMONELLOSIS	20	51	51	200	199	193
SHIGELLOSIS	25	26	53	245	238	327
SYPHILIS, Total	18	19	5	149	82	47
SYPHILIS, Primary & Secondary	4	9	0	57	43	23
TUBERCULOSIS	55	46	46	356	280	270
TYPHOID FEVER	0	1	0	3	4	4
TOTAL DEATHS REPORTED THIS PERIOD	1,321	1,275		7,706	7,712	
Deaths from pneumonia and influenza	157	137		597	852	
Medical Examiner cases	244	313		1,483	1,724	
Drug-related cases	63	71		290	284	
Cocaine-related cases	36	30		149	127	

CITY AND COUNTY OF SAN FRANCISCO
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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

9 Tuberculosis in San Francisco, 1995

Tuberculosis in San Francisco, 1995

In 1995, 270 new cases of active tuberculosis (TB) were reported in San Francisco. This represents a 4% decline in cases when compared with 1994. 1995 is the second consecutive year to show a decrease in the number of new TB cases overall, and the third year of decline in U.S. born cases, probably reflecting the impact of more intensive contact investigation and use of preventive therapy.

TB/HIV: From a high of 82 TB cases with AIDS in 1991, there has been a regular decline until 1995, when 58 patients with TB were known to also have AIDS (Figure 1). This number is a minimum estimate and may increase as some TB patients with unrecognized HIV infection are either tested for HIV or develop other manifestations of HIV disease. Between 20% to 25% of TB cases in San Francisco since 1988 have also had AIDS (22% in 1995). Patients with the dual diagnoses of TB and AIDS have been predominately U.S. born, younger, and more likely to be non-Hispanic white than patients with only tuberculosis.

Country of Birth: In 1995, 63% of new active cases of TB occurred among foreign-born residents of San Francisco. Compared with 1994, the number of foreign-born cases declined by 4% and U.S. born cases declined 2%. The large majority of foreign-born cases occurred in Asian immigrants, predominately Chinese, Filipino and Southeast Asian. However, seven TB cases were in immigrants and refugees from the former Soviet Union.

Age: TB case rates declined in all age groups except the elderly. (Figure 3). Only 4 cases occurred in children under 15. One child was diagnosed because of symptomatic disease at U.C. Medical Center, one was referred by immigration screening and two were detected as a result of mandatory TB screening of new school entrants. Among persons older than 44 years of age, the rate of active TB cases per 100,000 increased from 56.2/100,000 in 1994 to 74.9/100,000 in 1995. The reasons for the wide fluctuations in TB case rates among older individuals are unclear.

Race/Ethnicity: The decline in tuberculosis seen in 1995 was consistent for all large racial/ethnic groups, with the largest decrease among Asian-Americans, specifically Chinese (Figure 4 and Table 1). 1995 thus continued the trend seen in 1994. However, rates among minority populations remain substantially higher than among the non-Hispanic white population (from 1.7 to 3.8 times the rate among non-Hispanic white), and underscores the need to continue targeting education, screening and contact investigation among underserved minority populations.

Drug Resistance: Of the 270 new active cases of TB reported in 1995, 232 had positive cultures for *M. tuberculosis* and had susceptibility testing done (Table 2). Of the 232 with culture positive cases, 16.6% showed resistance to at least one drug. Unlike previous years, the drug to which resistance was most frequently documented was streptomycin, (11.2%), and reflects transmission of 2 separate strains of *M. tb.* Isoniazid resistance was documented in 8.1% of isolates, unchanged from 1994. Rifampin resistance was seen in 1.7% of cases, as was ethambutol resistance.

Pyrazinamide resistance was seen in 0.8% of cases. MDR-TB, defined as resistance to at least INH and rifampin, occurred in 3 cases, or 1.2% of isolates. As can be seen in Table 2, MDR-TB has ranged between 1-2% for the past 4 years. Two of the 1995 MDR-TB cases were among U.S. born persons, one of which occurred in an American-born person with HIV-disease while on extended travel overseas.

To report a known or suspected case of tuberculosis, please phone, FAX, or mail a CMR card to:

San Francisco Department of Public Health, TB Control Division
San Francisco General Hospital, Ward 94
1001 Potrero Avenue, San Francisco, CA 94110
Phone: (415) 206-8524 FAX: (415) 648-8369

For information about the diagnosis and treatment of TB and TB infection, contact the San Francisco TB Control Division at (415) 206-8524. Questions on clinical management of patients by health care providers can be directed to the National Tuberculosis Center Warmline at (415) 502-4700.

Table 1. TB Cases in San Francisco by Ethnic Group, 1991-1995

	1991 (N=333)		1992 (N=355)		1993 (N=356)		1994 (N=280)		1995 (N=270)	
ETHNIC GROUP	#	%	#	%	#	%	#	%	#	%
Asian	161	48%	167	47%	188	53%	150	54%	139	51%
Chinese	*77*		*75*		*90*		*79*		*56*	
Filipino	*46*		*60*		*61*		*51*		*55*	
SE Asian	*29*		*17*		*27*		*11*		*19*	
Other Asian	*9*		*15*		*10*		*9*		*9*	
White	67	20%	73	21%	59	17%	55	19%	60	22%
African Amer.	64	19%	65	18%	52	15%	41	15%	39	14%
Hispanic	34	10%	48	14%	49	13%	32	11%	30	11%
Other	7	2%	2	1%	7	2%	2	1%	2	1%

Table 2. Drug Resistance in Culture-positive TB Cases Diagnosed in 1992 - 95

	1992	1993	1994	1995
	N= 286	N= 318	N= 242	N=232
DRUG	% Resistant	% Resistant	% Resistant	% Resistant
INH	9.7%	12.5%	7.8%	8.1%
Rifampin	3.4%	1.5%	3.7%	1.7%
Ethambutol	1.7%	0.3%	1.6%	1.7%
Strep	3.8%	5.0%	6.1%	11.2%
PZA	0.6%	2.2%	0.8%	0.8%
Any Drug	12.2%	17.2%	12.8%	16.6%
MDR (INH+Rif)	2.0%	0.9%	2.1%	1.2%

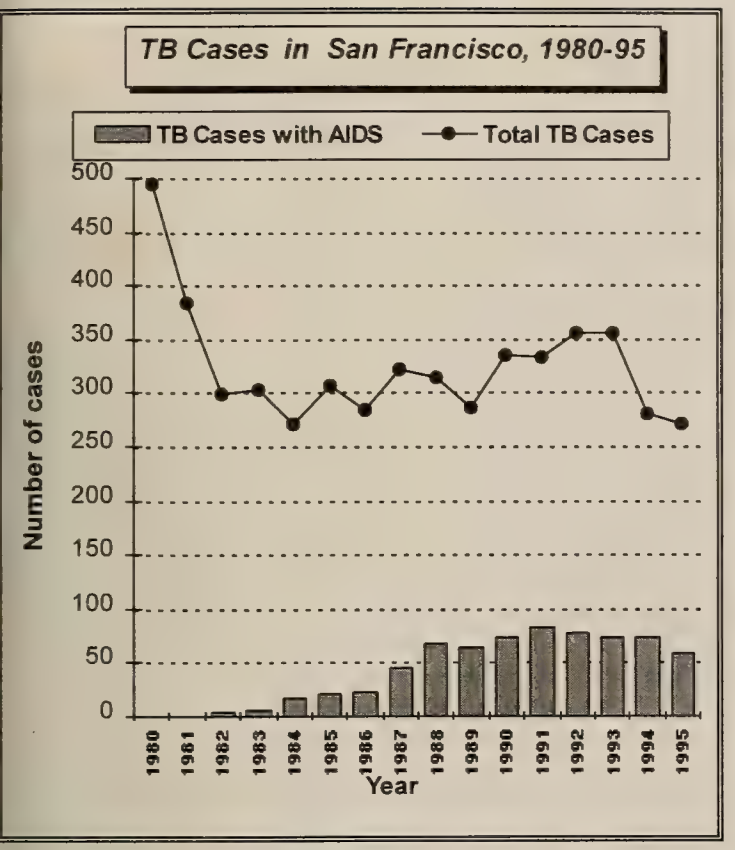


Figure 1

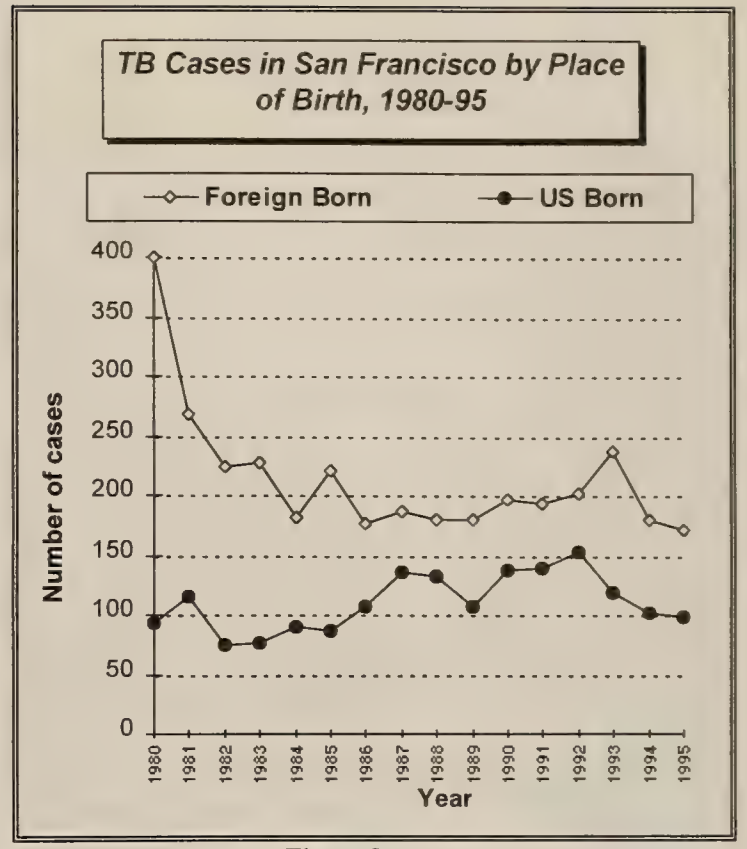


Figure 2

Figure 3

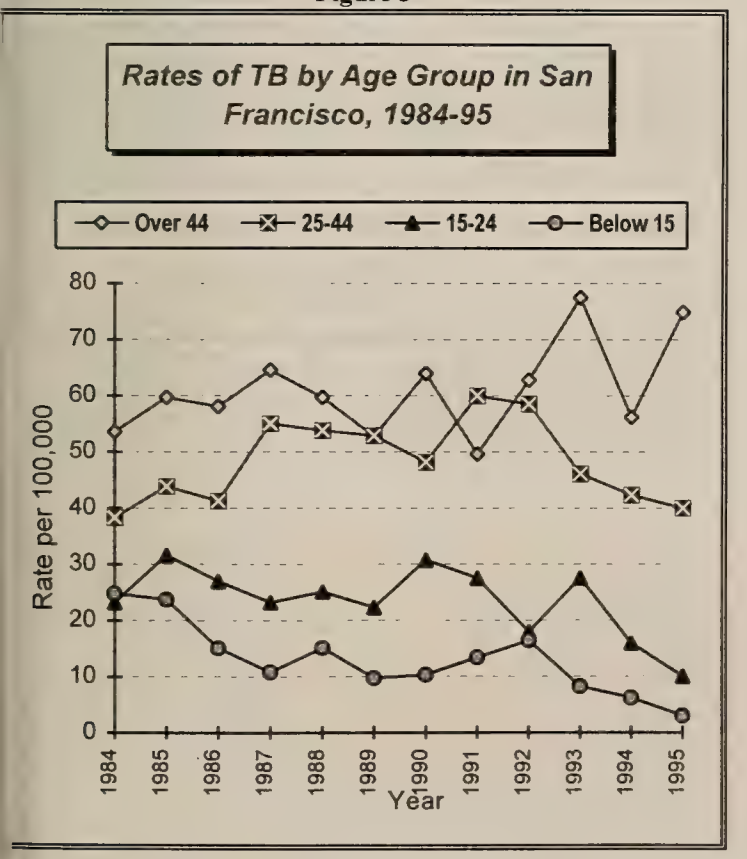
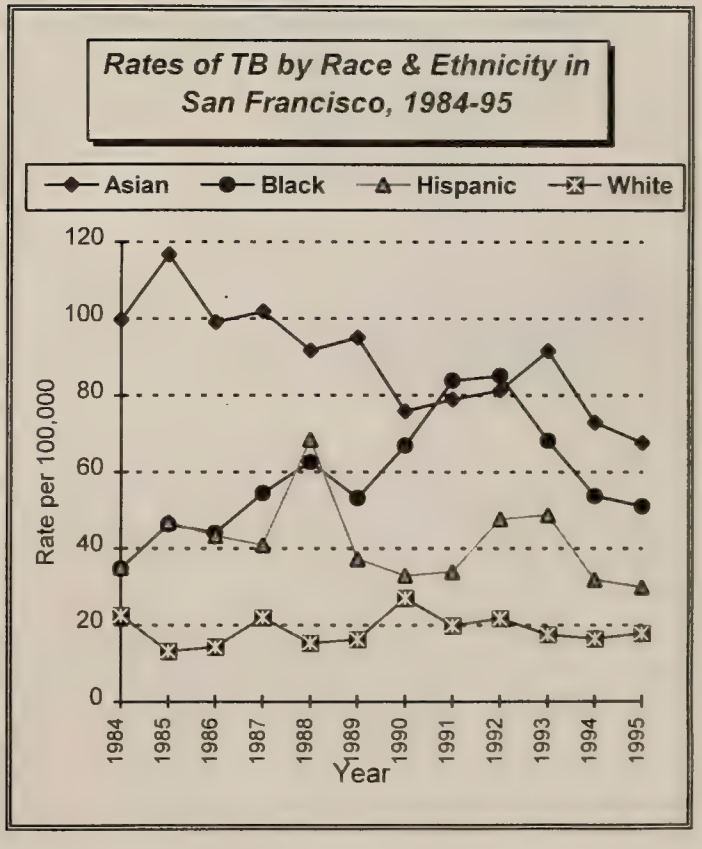


Figure 4



CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

9 WEEK PERIOD ENDING 3/2/96

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 1 THROUGH 9			TOTAL CASES REPORTED TO DATE		
	1994	1995	1996	1994	1995	1996
AIDS	493	331	281	493	331	281
AMEBIASIS	44	47	23	44	47	23
CAMPYLOBACTERIOSIS	89	99	94	89	99	94
CHANCROID	0	0	0	0	0	0
CHLAMYDIAL INFECTIONS	414	381	505	414	381	505
GIARDIASIS	74	71	77	74	71	77
GONORRHEA	335	288	362	335	288	362
H. INFLUENZAE INVASIVE DISEASE	1	1	4	1	1	4
HEPATITIS Type A	25	63	97	25	63	97
HEPATITIS Type B	9	7	8	9	7	8
HEPATITIS Non A - Non B	0	0	0	0	0	0
LISTERIOSIS	1	3	1	1	3	1
LYME DISEASE	0	0	1	0	0	1
MALARIA	1	4	2	1	4	2
MEASLES	0	0	0	0	0	0
MENINGOCOCCAL INFECTIONS	3	3	1	3	3	1
PELVIC INFLAMMATORY DISEASE	31	21	4	31	21	4
PERTUSSIS	1	1	0	1	1	0
RUBELLA	0	1	0	0	1	0
SALMONELLOSIS	27	32	29	27	32	29
SHIGELLOSIS	34	50	60	34	50	60
SYPHILIS, Total	16	6	6	16	6	6
SYPHILIS, Primary & Secondary	9	3	3	9	3	3
TUBERCULOSIS	47	41	37	47	41	37
TYPHOID FEVER	0	0	1	0	0	1
TOTAL DEATHS REPORTED THIS PERIOD	1,391	1,463		1,391	1,463	
Deaths from pneumonia and influenza	171	165		171	165	
Medical Examiner cases	315	345		315	345	
Drug-related cases	35	37		35	37	
Cocaine-related cases	8	14		8	14	

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

13 Mortality Data Summary, San Francisco, 1993-4
20 Physician's Alert: Mercury Containing Cosmetic
22 Fact Sheet: Mercury Containing Cosmetic (please reproduce and distribute)

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Mortality Data Summary, San Francisco, 1993-4

INTRODUCTION. The patterns of mortality are an important element of public health surveillance. Mortality data can be used to monitor the general health of the population and changes in health over time. The identification of the major causes of death and of the population groups at higher risk is important for health care services planning, health policy decisions, and epidemiologic research.

This report summarizes mortality data for San Francisco residents in 1993 and 1994. The mortality data tables included display the ten leading causes of death overall (Table 1), years of potential life lost by cause of death and gender (Table 2), and the five leading causes of death stratified by gender, racial/ethnic, and age (Figures 1-3). Instructions for obtaining sets of the detailed mortality tables for 1993 and 1994, which are not reported here, are included at the end of this report.

METHODS. Computerized death certificate data sets were obtained from the California Department of Health Services, Data Retrieval and Analysis Section. These data included all certified deaths of San Francisco residents. Certificates of death for residents who died outside of the county and/or state were included in the analysis.

Data included age, gender, racial/ethnic group, and coded cause of death. Racial/ethnic groupings included white, African-American, Latino (Hispanic), and Asian/other. Limiting factors for further ethnic breakdown of the Asian/other group were the small number of deaths in other ethnic groups such as American Indian, Alaskan/Aleutians and the population estimates by ethnic group supplied by the State. International Classification of Diseases, Ninth Revision (ICD-9) codes for the underlying cause of death from the death certificate were classified into major diagnostic groupings. The grouping procedure for cause of death was identical to the system used by the State of California (1).

Years of potential life lost (YPLL's), an indicator of life expectancy loss for deaths at younger ages, was calculated for 1994 by subtracting ages at death from 75 (2).

Mortality rates for 1993 and 1994 were calculated using population estimates provided by the California Department of Finance.

RESULTS. During 1993 and 1994 respectively, 8017 and 7918 San Francisco residents died. The leading cause of death was heart disease (26.3% in 1994), followed by cancer (19.8%), and AIDS (14.5%, [males 23.8%, females 1.3]). Deaths due to injuries combined (including unintentional injuries, homicide, and suicide), accounted for almost 4%.

The number of total deaths declined in the last two years after peaking in 1992 (8345 deaths) [3]. Male deaths accounted for 59% of all deaths.

Despite a decrease in AIDS deaths in the last two years, AIDS remained the leading cause of death among males in San Francisco. AIDS was

also the leading cause of death in the white and Latino males.

Among females, the leading causes of death in 1994 were heart disease (32%), cancer (23.4%), and stroke (10.5%). Lung cancer remained as the foremost type of cancer for both sexes.

Males accounted for 80% of the total YPLL's, primarily because of AIDS (47% of males YPLL's and 39% of the total). Injuries (including unintentional, homicide, and suicide) represented 16% percent of total YPLL's. Among females, cancer accounted for almost 26% of total YPLL's followed by heart disease (11%). YPLL's were higher in males than females in all categories. Notable were the differences in unintentional injuries (males: 6633, females: 1869), heart disease (6168, 2209 respectively), suicide (3219, 820), homicide (2765, 436), liver disease (1125, 462), and perinatal (3426, 2341).

AIDS mortality decline in white males coupled with an increase for African Americans, has resulted in the latter group having the highest AIDS age-adjusted death rates in 1994. AIDS mortality rates for whites is at it lowest since 1990 while rates for African Americans has steadily increased reaching its highest in 1994. Also, the distribution of age specific rates is more widespread in African Americans males than in white males (data not shown).

Despite the above, the 1994 unadjusted AIDS mortality rate for white males (477 per 100,000, 95% C.I. 445, 510) was significantly higher than in African Americans (351 per 100,000, 95% C.I.: 293, 410). However, African American females had statistically significant higher rates (56 per 100,000, C.I.: 33, 79) than their white counterparts (9 per 100,000, C.I.: 4, 13) [4].

EDITORIAL NOTE. Although the relative importance of the leading causes of death vary by gender, race, and age, it is clear that the most important causes of death in San Francisco residents are heart disease, cancer, AIDS, injuries, and cerebrovascular disease.

The rapidly increasing rates of AIDS among African American males and females, and the decline of AIDs among white males indicates some shifting of the disease. AIDS also remained the leading cause of death for Latinos.

The high number and importance of AIDS/HIV deaths, especially in young and middle aged males, help explain the high age-specific mortality rates for those age groups as well as contributing to the elevation of age-adjusted rates as compared with the state (data not shown). In addition to AIDS, injuries, both unintentional and intentional, strongly influenced the unequal distributions of mortality by gender for young adults, and for Latinos and African-Americans.

Although mortality data is an important tool to assess the health of a community, the use of death certificate-based data has several limitations. Some of the limiting factors are: death misclassification; incompleteness of information available to the clinician completing the death certificate; and inconsistencies among reporting clinicians due to lack of uniform guidelines. However, it is unlikely that these factors will substantially alter the major findings of mortality reports.

Caution must be observed when interpreting race/ethnicity differences. Classification of ethnicity in death certificates is imprecise. Substantial differences in mortality rates by race/ethnicity are confounded by socioeconomic status, for which data is not available.

A limitation in restricting analysis to the underlying cause of mortality is that contributory causes are not considered. Important examples are smoking and alcohol/drug abuse. Previous epidemiologic studies have shown that these are preeminent causes of premature and preventable mortality.

Another limitation of using mortality analysis to assess community health status is that many disease and health problems contribute to morbidity, though not substantially to mortality, e.g. arthritis, lead poisoning, sexually

transmitted diseases (other than Hepatitis B and HIV). Most chronic diseases have a long period between disease onset and mortality.

The purpose of public health surveillance is to provide information for action. The magnitude of the AIDS epidemic in San Francisco calls for continuing efforts to assure adequate clinical and humanitarian services for HIV-infected persons, and to prevent further transmission. The high and increasing rate of AIDS among African Americans calls for an intensification of studies and prevention strategies. Among the leading causes of deaths, African American males and females have the highest age-adjusted mortality rates due to high rates of heart disease, cancer, AIDS, and stroke. With respect to violence, African American males have the highest homicide mortality rates.

Major chronic diseases, such as heart disease and cancer, also merit expanded public health interventions for prevention and control. Behavior changes including regular physical activity, healthy diet, and elimination of smoking, alcohol and drug abuse, have the greatest potential to reduce premature mortality. In addition, preventive services such as mammography and Pap smears deserve systematic delivery to high risk groups (5).

The potential years of life lost also underscore the seriousness of the injury problem. Community efforts to prevent unintentional injury and violence would benefit from additional health education and policy initiatives. We are conducting further epidemiologic studies to identify high risk populations and effective approaches to prevention.

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3. San Francisco Department of Public Health, Bureau of Epidemiology and Disease Control. Mortality Among San Francisco Residents, 1991-2. San Francisco Epidemiologic Bulletin, Vol. 10, Nos. 3/4 March/April 1994.

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5. Levine, S. & Lilienfeld, A. (Eds.). Epidemiology and Health Policy. Tavistock Publications, New York, 1987.

To obtain copies of the 1993 and/or 1994 mortality tables for San Francisco please send a written request specifying which year(s) you desire and a self-addressed mailing label to: ***Editor, Epidemiologic Bulletin, Bureau of Epidemiology and Disease Control, 101 Grove Street, Rm. 402, San Francisco CA. 94102.*** *We are unable to handle phone requests due to staff shortages.*

Table 1. Mortality by Cause and Gender
San Francisco, 1991-1994

Cause of Death	Females		Males		Totals	
	1993	1994	1993	1994	1993	1994
Heart Disease	1086	1051	1125	1031	2211	2082
Cancer	767	769	779	801	1546	1570
AIDS	37	43	1135	1104	1172	1147
Stroke	336	344	199	229	535	573
Pneumonia and influenza	204	185	202	195	406	380
Unintentional Injuries	84	97	229	213	313	310
Pulmonary Disease	121	111	136	139	257	250
Suicide	27	36	107	101	134	137
Diabetes	48	59	64	56	112	115
Drug Overdose	24	32	113	91	137	123
Other	569	586	762	768	1331	1354
Total	3279	3281	4738	4637	8017	7918

Table 2. Years of Potential Life Lost* by Cause of Death and Gender
San Francisco, 1994

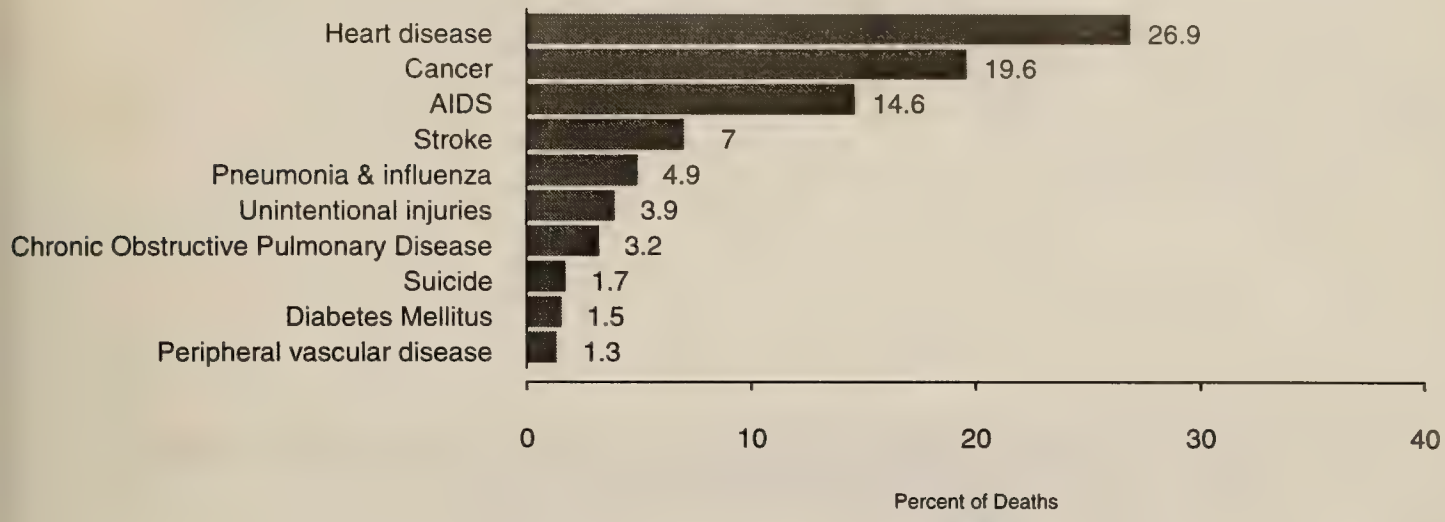
Cause of Death	Females		Males		Totals	
	Years	%	Years	%	Years	%
AIDS	1481	8%	37205	47%	38686	39%
Cancer	5062	26%	6832	9%	11894	12%
Unintentional Injuries	1869	10%	6633	8%	8502	9%
Heart Disease	2209	11%	6168	8%	8377	8%
Perinatal**	2341	12%	3426	4%	5767	6%
Suicide	820	4%	3219	4%	4039	4%
Homicide	436	2%	2765	3%	3201	3%
Stroke	796	4%	1028	1%	1824	2%
Pneumonia and Influenza	534	3%	1055	1%	1589	2%
Liver	462	2%	1125	1%	1587	2%
Other	3587	18%	9774	12%	13361	14%
Total	19597	100%	79230	100%	98827	100%

** Based on 75 year life expectancy.*

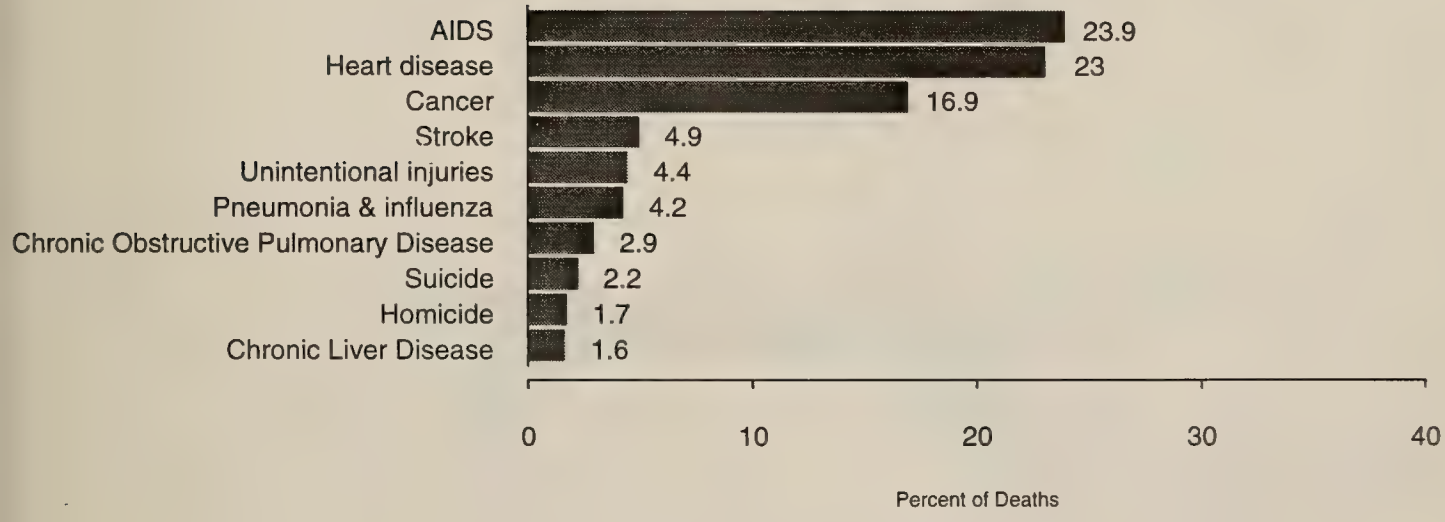
*** Includes Sudden Infant Death Syndrome, Congenital Anomalies and Perinatal Conditions.*

Figure 1. S.F. Leading Causes of Death - 1993-94

All Deaths



Males



Females

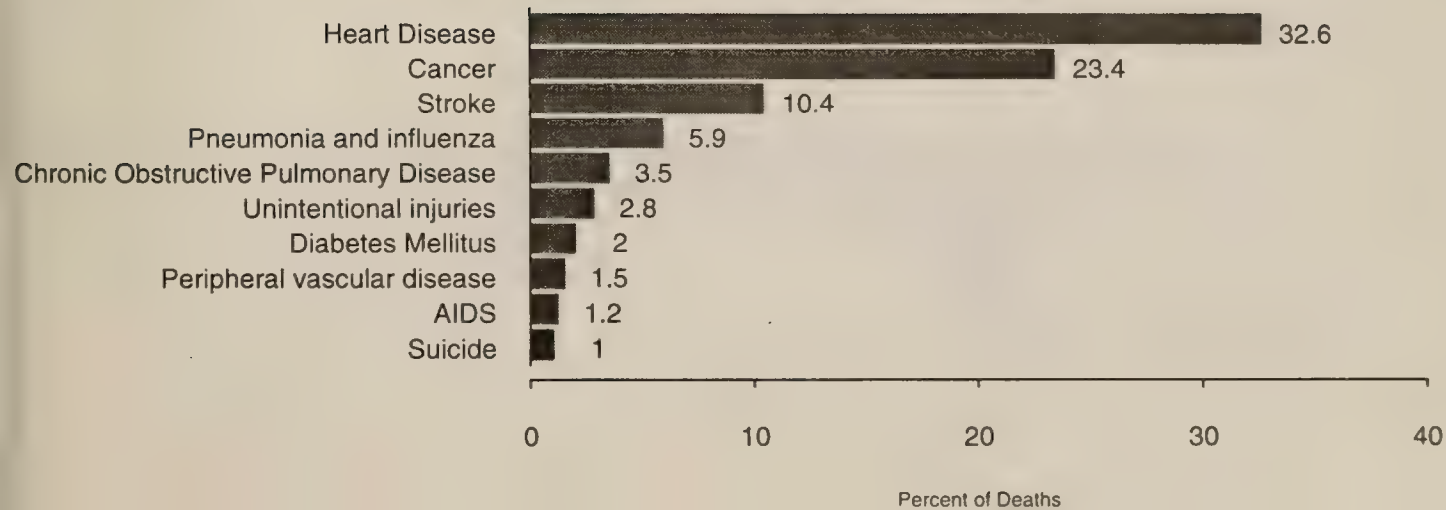


Figure 2. S.F. Leading Causes of Death - Males 1993-94

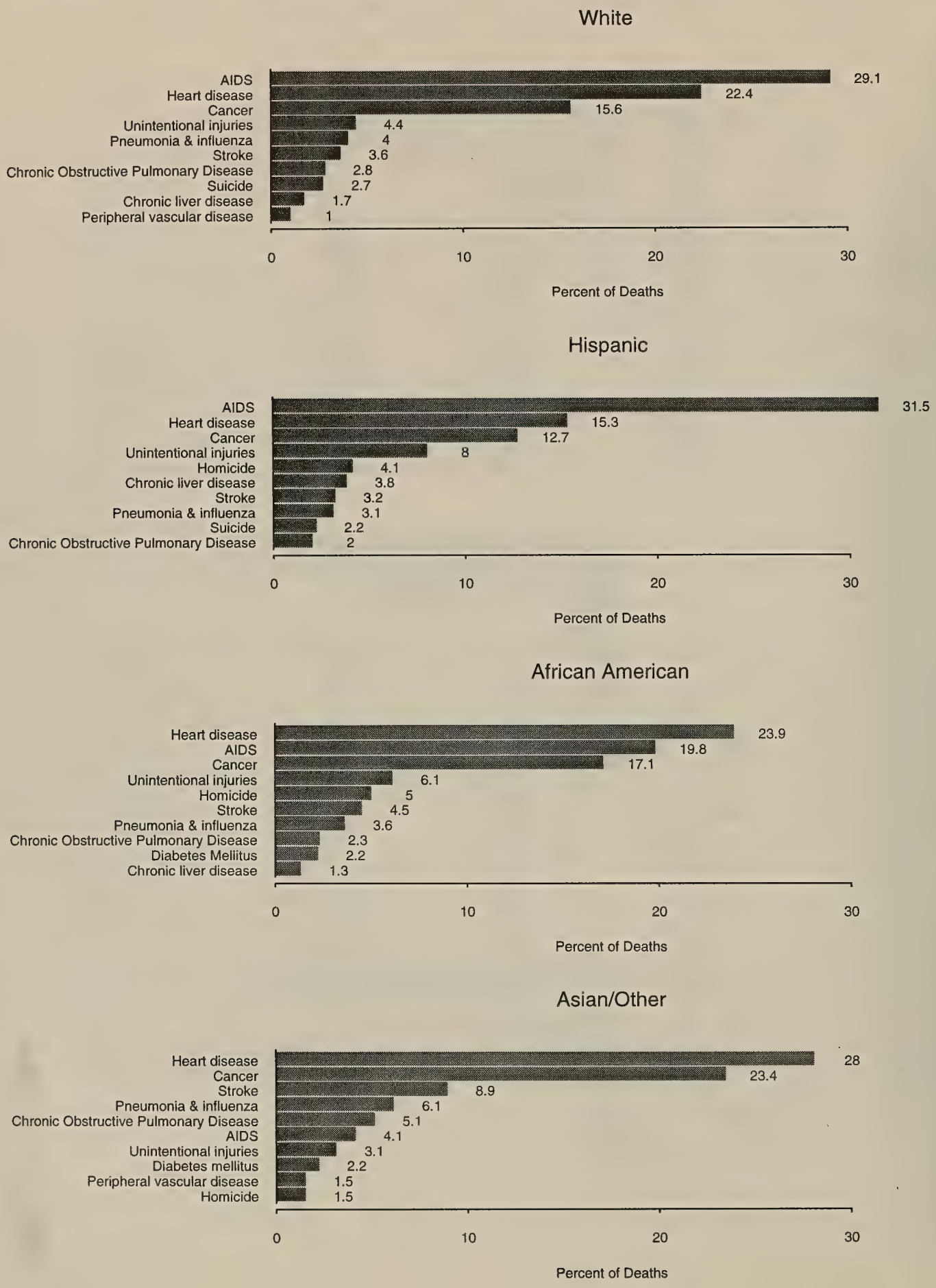
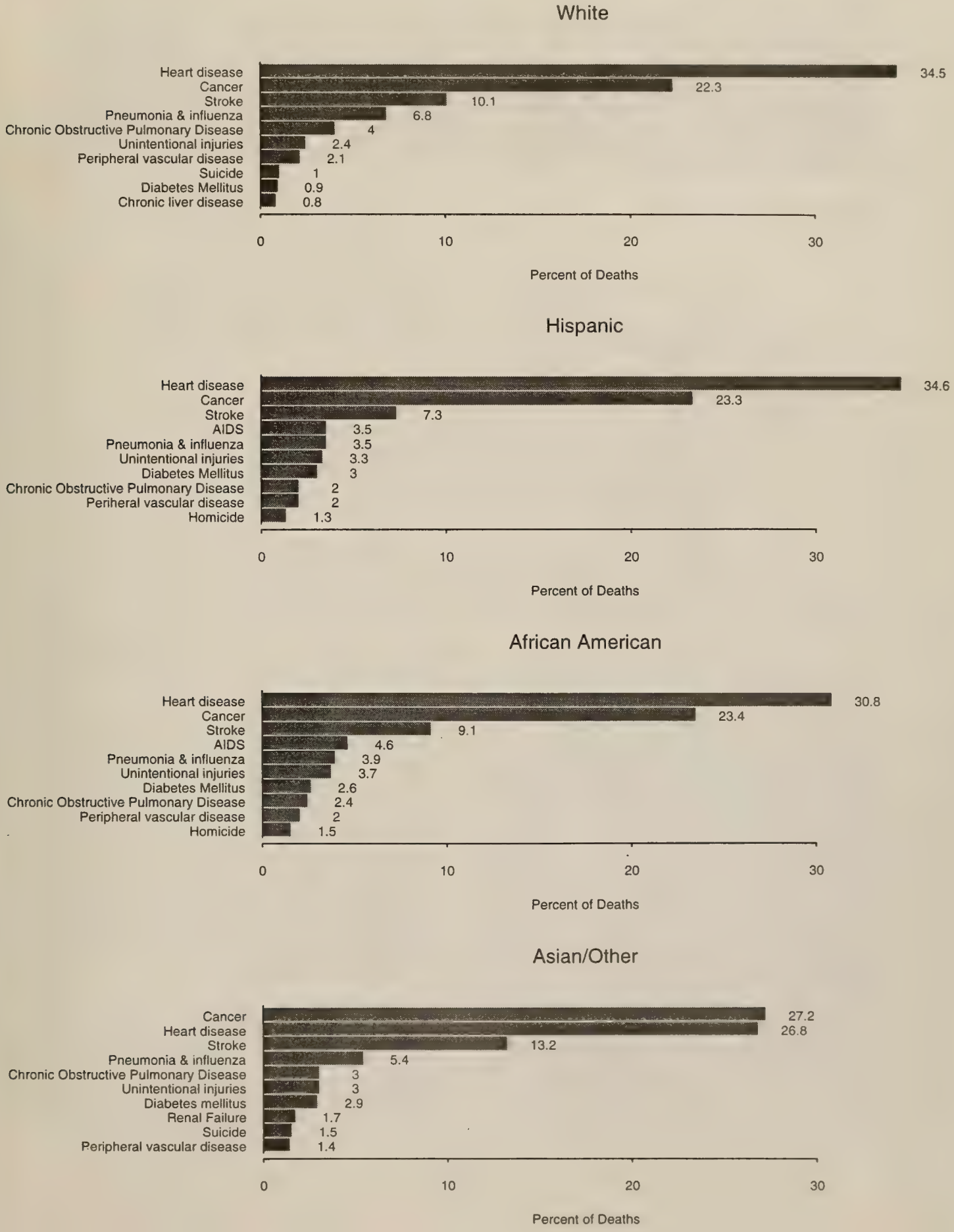


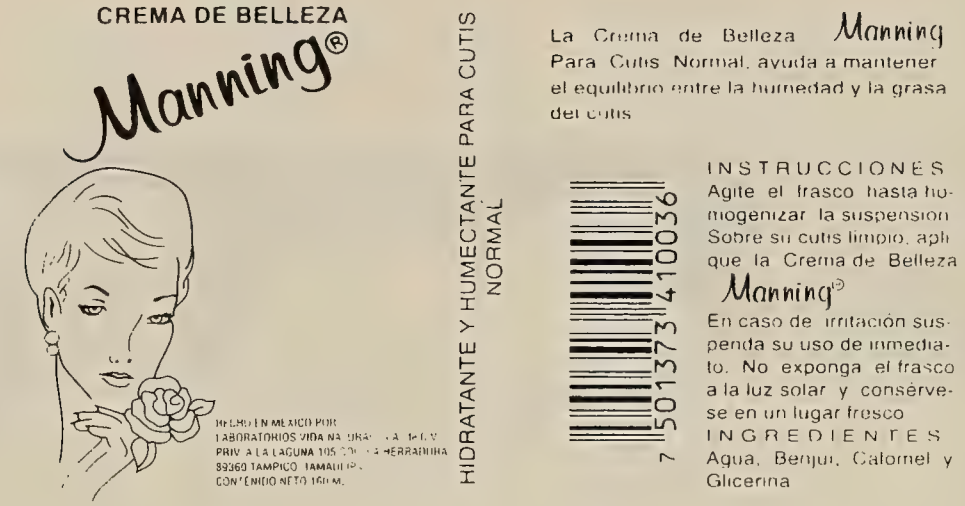
Figure 3. S.F. Leading Causes of Death - Females 1993-94



PHYSICIAN'S ALERT

CALIFORNIA DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL HEALTH INVESTIGATIONS BRANCH

MERCURY CONTAINING COSMETIC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INSTRUCCIONES
Agite el frasco hasta homogenizar la suspension Sobre su cutis limpio, aplique la Crema de Belleza Manning®
En caso de irritación suspenda su uso de inmediato. No exponga el frasco a la luz solar y consérvese en un lugar fresco
INGREDIENTES
Agua, Benjui, Calomel y Glicerina
7 501373 410036

An over the counter cosmetic face cream imported from Mexico has been found to contain high levels of mercury in the form of "calomel" or mercurous chloride, an inorganic mercury salt. The cosmetic, Crema de Bellezza Manning, (Manning's Beauty Cream) has been manufactured in Mexico for over 30 years and is used for acne or as a skin lightener and softener. It comes in three varieties *Normal*, *Grasoso* and *Seco* for normal, oily and dry skin types. Testing by the Texas and California Department of Health laboratories have revealed mercury levels in the product ranging from 6-19% by weight (3000 times the allowable limit in the United States).

Thus far 61 users of the cream have been identified in California in San Diego, Imperial, Los Angeles, Sacramento and San Benito Counties. Of those tested over 80% have had elevated urine mercury levels (mean 164 mcg/L, range 22-1170 mcg/L). Most of the users have lived in border counties and obtained the product from Mexico but informal distribution networks may exist making the product available throughout the state. The Mexican government has required the company to stop manufacture of the product but stocks of the cosmetic may still be available in Mexico or the U.S.

In order to assist with surveillance efforts, the California Department of Health Services (CDHS) is requesting you notify your county health department of any cases you identify of individuals using the product.

We have also prepared a short questionnaire we would like you to fill out to help us learn more about the health effects and treatment of this form of exposure to inorganic mercury. Information provided by your patients will be kept confidential and used only for the purpose of studying the health

effects of this product. Contact your county health department or CDHS for a copy of the questionnaire.

Absorption and toxicity

Only a small percentage of the mercury is absorbed following dermal exposure. Unfortunately many of the users have used the cream for years allowing toxic levels to develop gradually. Although little is known about factors affecting absorption, broken skin and sun exposure may cause increased absoption. The major target organs for toxic effects are the renal and central nervous systems. Most of the inorganic mercury is excreted in the urine. The biological half life of inorganic mercury is 40-60 days.

Signs and Symptoms

Symptoms of mild to moderate toxicity may include nervousness and irritability, headache, tremors, memory loss, depression, insomnia, weight loss, fatigue and difficulty with concentration. More severe neurologic symptoms may include psychosis, peripheral neuropathy and a syndrome similar to amyotrophic lateral sclerosis. Renal toxicity may include proteinuria or nephrotic syndrome and renal tubular acidosis. Gingivitis or ulceration of the gums and excessive salivation have also been described due to inorganic mercury toxicity. Children exposed in the past to inorganic mercury in teething ointments or diaper powders have demonstrated acrodynia, which consists of redness of the palms, soles and cheeks, irritability, anorexia and poor muscle tone.

Diagnosis and laboratory studies

Mercury can be measured in blood, urine or hair. The most convenient method to confirm exposure is with a mercury urine level. A 24 hour collection is the most accurate but an early morning void (minimum 50 cc) corrected for creatinine may also be used. The normal range is 0-20 mcg/L in urine. Hazardous levels for mercury in exposed workers is considered to be 50-100 mcg/L although abnormalities such as difficulty concentrating have been described at even lower levels. Mercury may also be measured in whole blood. Blood levels are normally less than 2mcg/dl and should not exceed 5mcg/dl. Renal function tests and liver function tests should also be obtained in those with elevated mercury levels.

Exposure in pregnancy

Inorganic mercury crosses the placenta and fetal levels are similar and sometimes higher than maternal levels. Although there is very little literature on the specific effects of inorganic mercury by dermal exposure, spontaneous abortions and birth defects have been described with other forms of mercury toxicity.

Treatment and Follow up

Anyone using the cream should stop using it immediately. Mild to moderate symptoms may resolve over 2-6 months with no further therapy. For more serious symptoms, chelation therapy may be considered. There is no specific level of urine or blood mercury where chelation is advised. Chelation agents which may be used include 2,3 dimercaptopropane-1-sulfonate (DMPS) or 2,3-dimercaptosuccinic acid (DMSA). For advice or consultation regarding chelation regimens contact your local Poison Control Center.

Disposal of the Product

The remaining cream is a hazardous waste and must be disposed of properly to prevent accidental poisoning or contamination of the environment. Advise patients to contact your county's Household Hazardous Waste Program or the county health department environmental health department for information about where to dispose of the product.

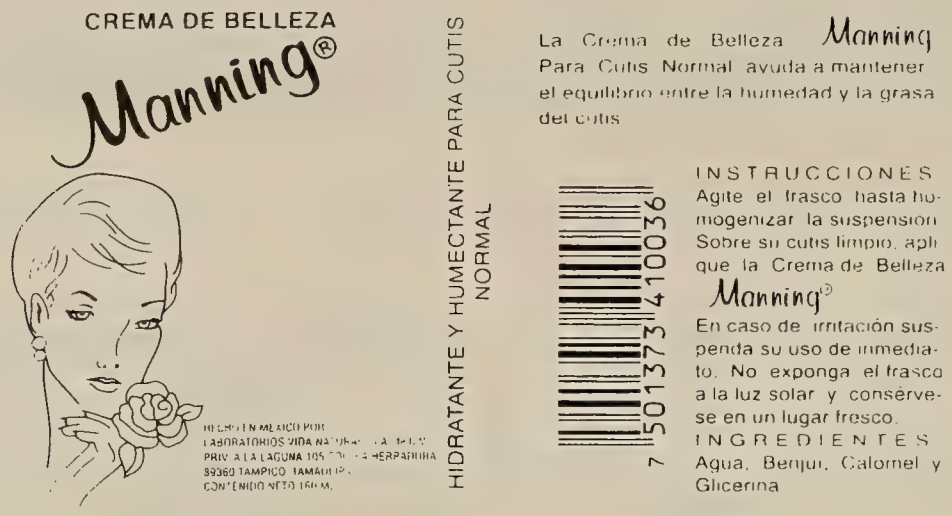
For further information:

Contact the San Francisco Department of Public Health, (415) 554-2832.

OR

California Department of Health Services
Environmental Health Investigations Branch
Debra Gilliss MD, MPH
Sandy McNeel D.V.M.
510) 450-3818.

HIGH LEVELS OF MERCURY FOUND IN FACE CREAM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Agite el frasco hasta homogenizar la suspension Sobre su cutis limpio, aplique la Crema de Belleza Manning®
En caso de irritación suspenda su uso de inmediato. No exponga el frasco a la luz solar y consérvese en un lugar fresco.
INGREDIENTES
Agua, Benjui, Calomel y Glicerina
7 501373 410036

Q: How do I know if the face cream I've been using contains mercury?

A: The cosmetic cream that contains high levels of mercury was manufactured in Mexico and is called *Crema de Belleza, Manning*. It comes in three varieties; normal, greasy/grasoso and dry/seca for different skin types. **If you are using this cream stop using it immediately** and see your physician or contact your county health department for evaluation. It is a white liquid sold in a 6 oz. bottle with a label as pictured above. The mercury in this product is in a form called "calomel" or mercurous chloride.. If you are using any other skin cream with calomel or mercurous chloride on the ingredients list, contact your county health department to determine if it contains hazardous levels of mercury.

Q: How can use of this cream affect my health?

A: Only a small portion of the cream gets into the body from the skin. Mild or moderate symptoms of mercury poisoning may include headaches, anxiety, depression, trembling hands or feet, difficulty sleeping, fatigue, difficulties with memory or weakness. These are common medical problems and have other causes besides mercury. Signs of more serious poisoning include personality changes, severe depression or other mental illness, tingling or numbness in hands or feet, muscle weakness, nerve damage or kidney damage. No cancers have been found due to use of mercury-containing skin creams. The health effects may vary depending on how often and how long you have been using the cream. Certain factors such as use on broken or irritated skin, sun exposure while using it and the use of other products with the cream may affect how much is taken up into the body. Some people such as the very young and very old may be more likely to develop problems from its use.

Q: Is there a test that can tell me if my symptoms are due to mercury?

A. It may not be possible to determine if some or all of your symptoms are due to

mercury because many of the symptoms like headaches are common and have other causes. However, improvement of those symptoms after stopping use of the cream means the symptoms were probably related to its use. A simple urine test can determine if you have absorbed unusually high levels of mercury. Contact your physician or county health department to find out how to get a test in your area. The cost of the test ranges from $15-45.

Q: Will all of my symptoms go away after I stop using the cream?

A: It takes 2-6 months for most of the mercury to leave your body after you stop using the cream. Mild or moderate symptoms such as headaches or nervousness may resolve over a few months if they were in fact due to the cream. More serious symptoms such as nerve damage, mental illness or kidney disease may take longer to improve or may be permanent.

Q: Is there a treatment for mercury poisoning?

A: If mercury levels are high or symptoms are severe, your physician may recommend a treatment known as "chelation therapy" that uses a medication to remove the mercury from the body. However, in most cases, your body will gradually eliminate most of the mercury without any specific treatment once you stop using the cream. Your physician may contact the nearest poison control center for information about chelation therapy.

Q: I'm pregnant and I've been using the cream. Will it hurt my baby?

A. If you have been using the cream while pregnant, stop using it immediately and notify your physician. Very little is known about the specific effects of this form of mercury skin cream on the developing fetus. However other forms of mercury have been shown to cause miscarriages and birth defects. The possibility of harm to your baby could depend on the amount of cream used. Having your urine tested can tell if your unborn child might be exposed

Q: I used the cream to treat my baby's diaper rash. What should I do now?

A. Stop using the cream immediately and notify your child's physician. A urine test will tell if your child has absorbed harmful levels of mercury. Your child's physician can contact the poison control center for advice regarding the need for treatment.

Q: What do I do with my leftover bottles?

A. Contact your county health department to determine the location of the nearest Household Hazardous Waste Disposal facility. If your county does not have a facility they will give you instructions for disposal. The bottles **should not** be put in the regular garbage because the mercury is dangerous and could cause poisoning of children or animals or contaminate the environment.

FOR MORE INFORMATION, YOU MAY CALL

Debra Gilliss, MD, MPH or Sandra McNeel, DVM at (510) 450-3818 California Dept. Health Services

This fact sheet is available in Spanish. Please call (510) 450-3818 or (415) 554-2832.

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

8 WEEK PERIOD ENDING 4/27/96

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 10 THROUGH 17			TOTAL CASES REPORTED TO DATE		
	1994	1995	1996	1994	1995	1996
AIDS	437	330	251	930	661	532
AMEBIASIS	39	49	29	83	96	52
CAMPYLOBACTERIOSIS	68	70	74	157	169	168
CHANCROID	0	0	0	0	0	0
CHLAMYDIAL INFECTIONS	371	281	85	785	662	590
GIARDIASIS	41	77	55	115	148	132
GONORRHEA	308	288	59	643	576	421
H. INFLUENZAE INVASIVE DISEASE	1	3	1	2	4	5
HEPATITIS Type A	27	65	93	52	128	190
HEPATITIS Type B	13	12	10	22	19	18
HEPATITIS Non A - Non B	0	0	0	0	0	0
LISTERIOSIS	0	2	3	1	5	4
LYME DISEASE	0	0	1	0	0	2
MALARIA	3	1	2	4	5	4
MEASLES	2	0	0	2	0	0
MENINGOCOCCAL INFECTIONS	0	2	1	3	5	2
PELVIC INFLAMMATORY DISEASE	17	11	0	48	32	4
PERTUSSIS	0	4	1	1	5	1
RUBELLA	0	1	0	0	2	0
SALMONELLOSIS	21	11	23	48	43	52
SHIGELLOSIS	20	27	49	54	77	109
SYPHILIS, Total	14	13	5	30	19	11
SYPHILIS, Primary & Secondary	6	6	2	15	9	5
TUBERCULOSIS	49	42	43	96	83	80
TYPHOID FEVER	1	3	2	1	3	3
TOTAL DEATHS REPORTED THIS PERIOD	1,277	1,135		2,668	2,598	
Deaths from pneumonia and influenza	151	126		322	291	
Medical Examiner cases	245	271		560	616	
Drug-related cases	53	60		88	97	
Cocaine-related cases	26	31		34	45	

CITY AND COUNTY OF SAN FRANCISCO
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Vol. 12, Nos. 7/8 July/Aug. 1996

~~MISSING~~ (not published)

Sept/Oct 1996

partment of Public Health
reau of Epidemiology and Disease Control

Vol. 12 Nos. 9/10* Sept./Oct. 1996

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

25 The Feasibility and Suitability of Targeting Young Gay Men for HIV Prevention Trials
29 STD/HIV Prevention Training Center Schedule

*Note: Vol. 12 Nos. 7/8 was omitted from the publication schedule.

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The Feasibility and Suitability of Targeting Young Gay Men for HIV Prevention Trials

Introduction. Amid the encouraging news of declining rates of new HIV infections among gay men, there have been a number of reports of increasing rates of new infections among younger gay men. Three recent studies of young men conducted in the San Francisco Bay area, the San Francisco Young Men's Health Study (University of California San Francisco [UCSF]) and the San Francisco/Berkeley Young Men's Survey and the Jumpstart Study (San Francisco Department of Public Health AIDS Office), have shown that subsets of young gay men continue to practice high risk sexual behaviors that put them at high risk for HIV infection.

The San Francisco Young Men's Health Study, a population-based household survey of gay men between 18 and 29 years of age conducted by investigators at UCSF, found that 2.6 percent of the men in the study became newly infected with HIV in 1994, and that an additional 1.4 percent per year became infected in both 1995 and 1996.[1] These results may reflect a 'second wave' of HIV infection among young gay men and suggest that prevention messages and campaigns should target this group specifically.

Similar results were found by the Young Men's Survey in which 425 young gay and bisexual men between the ages of 17 and 22 were recruited on street corners and sidewalks, at dance clubs, bars and parks in San Francisco and Berkeley. HIV seroprevalence was 9.4% (95% C.I. 6.8%-12.6%). Seventy percent of the HIV seropositive men did not know they were HIV infected, and only 22.5% of the HIV seropositive men had ever received medical care for HIV infection.[2] High risk behavior was prevalent, with 33% of the participants reporting unprotected anal intercourse and 12% reporting using injection drug use in the 6 months prior to their interview. The authors concluded that "prevention programs and health services need to be tailored to address the needs of a new generation of homosexual and bisexual men."[3]

An effective vaccine against HIV infection would constitute a prevention tool of great importance. However, the conduct of large scale vaccine efficacy trials in populations at risk for HIV will pose substantial difficulties. In particular, vaccine efficacy can only be efficiently evaluated in cohorts of subjects at relatively high risk. At the same time, study participants must comply with a demanding regimen of vaccinations and long-term follow-up, yet previous studies have suggested that high risk cohorts may be difficult to recruit and retain. In addition, efficacy trials should be conducted in cohorts representative of the populations most likely to benefit from vaccines. Young gay and bisexual men represent one such group.

The San Francisco "Jumpstart" Study. To address these issues, the Research Branch of the San Francisco AIDS Office recently participated in the three-site "Jumpstart" study sponsored by the Centers for Disease Control and Prevention (CDC) and National Institute of Allergy and Infectious Diseases (NIAID) to determine the

feasibility of conducting preventive HIV vaccine trials in cohorts of high risk HIV seronegative gay and bisexual men. In this report, we use data from the San Francisco Jumpstart cohort to evaluate the feasibility of conducting prevention trials using cohorts including young gay men. Specifically, we address the feasibility of recruiting and retaining young men in a cohort study, the prevalence of risk behaviors and seroincidence in this risk group, and young men's stated willingness to participate in one type of prevention trial--a preventive HIV vaccine efficacy trial.

HIV seronegative men 18 years of age or older who reported having had anal or oral sex with a man or a sexually transmitted disease in the last 12 months were eligible to enroll in the Jumpstart study. Participants received follow-up HIV antibody testing, counseling and behavioral interviews every six months. The behavioral interview included both self-administered and interviewer-administered questions on sexual behaviors, drug use, sexually transmitted diseases, psychosocial parameters and willingness to participate in a preventive HIV vaccine trial.

Recruitment of Young Men. The cohort was recruited between February 1993 and July 1994 from a number of venues including: the San Francisco City Clinic (STD clinic); outreach; referrals from other studies; and referrals from other study participants (snowball sampling). To enhance recruitment of younger men as well as men of color, outreach at street corners and dance clubs known to be frequented by a diverse group of men was performed. Of the 755 men enrolled in San Francisco, 176 (23%) were less than 25 years of age. Outreach efforts were particularly effective in recruitment of young men (Table 1), accounting for nearly one third of all enrolled young men.

Demographics and Risk Activity. To evaluate risk activity in younger men, we compared them to older men in the Jumpstart cohort. Young men in this study were more likely to be non-white, to have an annual income under $20,000, to be medically uninsured, and to have moved two or more times in the previous two years. Young men were also significantly more likely to report several risky sexual practices, including having unprotected anal or oral sex, a greater number of sex partners, and at least one episode of condom failure in the 6 months prior to study enrollment. However, young men were significantly less likely to report having a known HIV positive sex partner or a STD in that same time period. Young men were significantly more likely to report amphetamine or hallucinogen use, but were less likely to report injection drug or popper use (Table 2).

The prevalence of many reported risk behaviors declined significantly in both young and older men over the course of the study. Limiting the analysis to men who were interviewed in all four waves of data collection, we found a significant decrease in median number of sex partners, reports of condom failure, and episodes of urethritis for both young and old men. However, young men did not significantly change the number of times they reported unprotected receptive anal sex, unprotected insertive anal sex, unprotected oral sex or drug use behaviors. Older men, on the other hand, did report significant decreases in unprotected insertive anal sex, injection drug use, and the use of hallucinogens.

HIV Seroincidence. There were a total of 22 seroconversions in men enrolled in San Francisco. Of these, 5 occurred in the 176 men under 25. In men under 25 years of age, the annualized seroincidence rate was 2.9/100 person years (95% C.I. 1.3-6.9) as compared to 2.6/100 person years (95% C.I. 1.6-4.2) for men 25 years or older. Analysis of data from all three sites (Denver, Chicago and San Francisco) found that men under 25 years of age at study entry were significantly more likely to become HIV infected than men over 25, even after controlling for other factors associated with HIV infection such as unprotected receptive anal intercourse and injection drug use.[4]

Retention. By the 12 month follow-up visit, retention of young men was significantly more difficult than of older men. Only 70% of the men under 25 returned compared with 81% of the older men. When controlling for factors found to be associated with loss to follow-up, such as being uninsured, moving more than twice in 2 years, and unemployment, age was no longer significantly associated with loss to follow-up. However, these characteristics were more common among younger men and may explain lower retention rates in this group.

Willingness to Participate in Vaccine Trials. Both young and old men expressed similar levels of willingness to participate in a preventive HIV vaccine trial. Following a brief description of a trial design that included placebo controls, randomization, blinding and the possibility of vaccine-induced false positive HIV antibody tests, participants were asked whether they would be definitely, probably, might be or not at all willing to participate in a future vaccine trial. Young men did not significantly differ from older men in their overall willingness to participate (defined as answering either 'definitely' or 'probably' willing). However, young men expressed more uncertainty about participating, being more likely to report being 'possibly willing' and less likely to report being 'definitely willing' to participate.

Conclusion. The San Francisco Jumpstart study demonstrated that: young gay and bisexual men can be successfully recruited and retained in research studies; they express willingness to participate in a preventive HIV vaccine trial; they are at significantly greater risk of acquiring HIV; and they continue to practice high risk behaviors. Thus, they are important candidates for participation in a vaccine efficacy trial. However, young men may require targeted recruitment methods as well as special retention methods. And, because they are less likely to decease risk behaviors, they may also require special and more intensive risk reduction counseling during the conduct of prevention trials. The Jumpstart study suggests that prevention trials, whether they are evaluating behavioral or biomedical interventions, will need to address obstacles to participation, enhance compliance and reduce risk among gay and bisexual young men. Information regarding the risk profiles and demographic characteristics of young men from the Jumpstart study can help guide future efforts to target behavioral interventions to young men and ultimately reduce HIV seroincidence in this at risk population.

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TABLE 1. RECRUITMENT SOURCE

	Men Less Than 25 Recruited	Men 25 or older Recruited	Median Age
STD Clinic (City clinic)	88 (50%)	368 (64%)	29
Street/Club Outreach	57 (32%)	90 (15%)	26
Snowball Referral	22 (13%)	84 (15%)	29
Cohort Study	0 (0%)	35 (6%)	42
Other Sources	9 (5%)	2 (0%)	22
Total	176	579	

TABLE 2. BASELINE RISK FACTORS: YOUNGER VERSUS OLDER MEN

	Age less than 25	Age 25 or older	p-value
Total	176 (23%)	579 (77%)	
DEMOGRAPHIC VARIABLES			
Race			.001
White	51%	74%	
Latino	27%	12%	
African-American	8%	7%	
Other	13%	7%	
Moved 2 or more times in past 2 years	42%	21%	.001
Income less than 20,000/year	79%	44%	.001
Medically uninsured	57%	44%	.002
SEXUAL RISK VARIABLES (Baseline)			
Known Positive Sex Partner	17%	28%	.003
Unprotected Anal Sex	56%	46%	.012
Any Receptive Anal Sex (Protected or Unprotected)	81%	64%	.001
Unprotected Oral Sex	38%	32%	.004
Condom Break or Slippage	30%	20%	.004
Reported any STD	15%	23%	.04
DRUG RISK VARIABLES			
Injection Drug Use	<1%	3%	.04
Amphetamine Use	36%	25%	.004
Hallucinogen Use	25%	15%	.001
Popper Use	15%	24%	.02

San Francisco STD/HIV Prevention Training Center

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Course Schedule
(through July 1997)

-1996-

November 1 & 4 (Road Course)	Introduction to Behavior Change Theory: 1 Day Overview
November 4 - 8	STD Intensive (for clinicians)
November 6 - 8 (Road Course)	Introduction to Behavior Change Concepts: Bridging Theory and Practice
November 15	Phlebotomy
December 2 & 3	Evaluating HIV/STD Behavioral Interventions
December 4 - 6	Assuring Quality of HIV Prevention Counseling: A Workshop for Supervisors

-1997-

January 27 - 31	Introduction to Planning and Evaluating HIV/STD Behavioral Interventions
January 30 - 31	5th Annual Women and HIV Conference
February 3	Introduction to Behavior Change: 1 Day Overview
February 7	Phlebotomy
February 10	Phlebotomy
February 26 - 27	STD Overview (for non-clinicians)
March 3 - 7	STD Intensive (for clinicians)
March 10 - 14	Group Facilitation Skills
April 7 - 11	Introduction to Behavior Change Concepts: Bridging Theory and Practice
May 8 & 9	Advances in Sexually Transmitted Diseases
June 2 - 6	Introduction to Planning and Evaluating HIV/STD Behavioral Interventions
June 25 - 26	STD Overview (for non-clinicians)
July 21 - 25	STD Intensive (for clinicians)

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

9 WEEK PERIOD ENDING 8/31/96

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 27 THROUGH 35			TOTAL CASES REPORTED TO DATE		
	1994	1995	1996	1994	1995	1996
AIDS	336	335	248	1,620	1,299	975
AMEBIASIS	43	58	27	174	196	118
CAMPYLOBACTERIOSIS	109	72	109	400	327	371
CHANCROID	0	0	0	0	0	0
CHLAMYDIAL INFECTIONS	340	367	302	1,724	1,256	892
GIARDIASIS	66	52	62	258	271	257
GONORRHEA	379	288	484	1,446	1,129	905
H. INFLUENZAE INVASIVE DISEASE	0	5	3	5	27	9
HEPATITIS Type A	84	64	81	169	266	370
HEPATITIS Type B	13	11	9	51	38	39
HEPATITIS Non A - Non B	0	1	0	0	1	0
LISTERIOSIS	0	1	2	1	14	8
LYME DISEASE	1	1	1	1	1	3
MALARIA	3	4	5	11	12	11
MEASLES	0	0	0	2	1	0
MENINGOCOCCAL INFECTIONS	4	3	2	8	20	6
PELVIC INFLAMMATORY DISEASE	19	12	14	85	52	18
PERTUSSIS	0	2	1	7	14	4
RUBELLA	0	0	0	0	3	0
SALMONELLOSIS	39	47	47	109	108	122
SHIGELLOSIS	52	69	35	138	201	196
SYPHILIS, Total	10	13	44	56	33	55
SYPHILIS, Primary & Secondary	3	8	7	28	18	12
TUBERCULOSIS	45	47	41	189	186	164
TYPHOID FEVER	0	0	1	2	4	5
TOTAL DEATHS REPORTED THIS PERIOD	1,268	1,163		5,231	5,017	
Deaths from pneumonia and influenza	136	118		599	519	
Medical Examiner cases	280	273		1,117	1,179	
Drug-related cases	60	84		186	251	
Cocaine-related cases	31	29		86	106	

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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

31 The Programmatic Significance of New Non-Invasive Diagnostic Tests for *Chlamydia trachomatis*

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The Programmatic Significance of New Non-Invasive Diagnostic Tests for *Chlamydia trachomatis*

- 1996

Introduction. Nationally, in 1994, chlamydia became the most commonly reported sexually transmitted disease (STD)[1]. Locally, there were 1756 cases of chlamydia in San Francisco in 1995. Seventy-five percent of the cases were diagnosed in women. The highest rates for both sexes were among 15-19 year olds.

A high proportion of urogenital tract infection with chlamydia is asymptomatic [2]. Asymptomatic cervical chlamydial infection is associated with many negative reproductive health outcomes including ectopic pregnancy and infertility. Furthermore, individuals with asymptomatic infection are believed to play a large part in maintaining the endemic rates of chlamydia [3]. As such, detection and treatment of asymptomatic genitourinary tract chlamydial infection is essential to STD prevention and control.

In 1988, the San Francisco STD Prevention and Control Program, San Francisco Department of Public Health (SFDPH), implemented a community-wide chlamydia screening and treatment program for women at 35 clinical sites (San Francisco Epidemiologic Bulletin 1995;Vol.11, No.3/4). Selected clinical sites included family planning clinics, juvenile detention facilities, and primary care clinics. Women were tested for endocervical chlamydial infection at these sites with Microtrack DFA (Syva, Palo Alto, CA) from 1988-1991 and with Chlmaydiazyme EIA (Abbott Laboratories, Abbott Park, IL) from 1991 to the summer of 1996. Since then all screenings have been done using newer DNA-amplification tests.

Although the program was very successful in identifying and treating chlamydia in women seeking care in these clinics, the program did not reach women who did not seek reproductive health care nor did the program specifically target men. As such, the program failed to diagnose and treat many individuals with asymptomatic infection. Fortunately, recent technological advances in the diagnosis of chlamydia now make possible screening of women and men for asymptomatic chlamydia in non-clinical settings.

DNA-Amplification Diagnostic Test for Chlamydia. In the past three years, the federal Food and Drug Administration has approved two new DNA amplification tests which detect chlamydia infection of the male and female urogenital tract. These tests can be used in non-clinical settings and are more acceptable to patients than existing tests [4,5]. Diagnosis of genital chlamydia infection using older tests requires invasive collection procedures: a pelvic exam in the case of women and insertion of a swab into the urethra for men. Not surprisingly, these procedures have limited acceptability to

patients, especially for the diagnosis of asymptomatic infection. Furthermore, there are problems with the sensitivity of the older diagnostic tests.

The newer diagnostic test requires only a urine specimen and lab results can be obtained within 24 - 72 hours. There are two commercially available DNA-amplification tests: one utilizes a polymerase chain reaction (Amplicor PCR: Roche Molecular Systems, Somerville, NJ) and the other utilizes a ligase chain reaction (LCR: Abbott Laboratories, Abbott Park, IL) [4,5]. Both techniques make multiple copies of a target DNA sequence specific to the *Chlamydia trachomatis* using DNA polymerase, DNA nucleotides, and a probe to detect the new copies. Each test costs approximately $20-$35, retail.

The DNA-amplification tests for chlamydia are also more sensitive (85-90%) than commercially available non-culture diagnostic tests, e.g., Chlamydiazyme (65-75%) and tissue culture (74%)[4-6]. Notably, 66% of women who were diagnosed with chlamydia on the basis of a DNA-amplification test of the urine had cervical but not urethral infection. As such, these urine tests are useful for detecting chlamydial infection in women who only have cervical infection and in men and women with urethral infection.

Finally, the use of DNA-amplification tests appears to be cost-effective in populations in which prevalence of chlamydia exceeds 5-6% [6]. The estimated prevalence of chlamydia among adolescents and young adults in San Francisco is approximately 5%.

Community-Based Screening for Chlamydia. The SFDPH's STD Prevention and Control Program has been conducting urine-based chlamydia screening using Abbott's LCR since January 1996. They have conducted several screenings in cooperation with the San Francisco Community College (SFCC) AIDS Education Office. The screenings have been performed at three SFCC campuses: John Adams; Mission; and Southeast. As part of these screenings, students were offered HIV tests with risk assesssment and disclosure counseling, syphilis tests, and chlamydia tests. The program targets men and women. Since starting this program, a total of 64 students have been tested for chlamydia (38 women and 26 men). One man and two women were diagnosed with chlamydia. The positivity rate was 4.7%.

In addition, SFDPH is currently using LCR to screen incarcerated men and women in the San Francisco jails. They are also using LCR tests as part of a state and locally sponsored Community Health Outreach Project. This project involves taking a mobile health clinic into neighborhoods with high rates of chlamydia, sending outreach workers into the community, and providing comprehensive STD services. So far this year there have been 19 outings, during which a total of 101 individuals were tested for chlamydia (72 women and 68 men). The overall positivity rate was 10.9% (17.5% for women and 6.6% for men).

Conclusion. Diagnosis and treatment of asymptomatic chlamydia infection is essential to the prevention of infertility in women and for efforts to reduce the transmission of chlamydia. Non-invasive DNA-amplification tests for chlamydia afford public health departments the opportunity to expand their chlamydia screening program into the community and allow increased screening of asymptomatic women and men.

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REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

9 WEEK PERIOD ENDING 11/2/96

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 36 THROUGH 44			TOTAL CASES REPORTED TO DATE		
	1994	1995	1996	1994	1995	1996
AIDS	303	316	210	1,923	1,615	1,212
AMEBIASIS	44	61	30	218	257	148
CAMPYLOBACTERIOSIS	121	106	111	521	433	482
CHANCROID	0	0	0	0	0	0
CHLAMYDIAL INFECTIONS	368	272	108	2,092	1,528	1,007
GIARDIASIS	83	99	90	341	370	347
GONORRHEA	338	281	139	1,784	1,410	1,077
H. INFLUENZAE INVASIVE DISEASE	2	5	1	7	32	10
HEPATITIS Type A	76	93	91	245	359	461
HEPATITIS Type B	10	2	4	61	40	43
HEPATITIS Non A - Non B	0	0	0	0	1	0
LISTERIOSIS	0	1	0	1	15	8
LYME DISEASE	0	0	0	1	1	3
MALARIA	2	2	2	13	14	13
MEASLES	0	1	2	2	2	2
MENINGOCOCCAL INFECTIONS	2	5	1	10	25	7
PELVIC INFLAMMATORY DISEASE	12	4	12	97	56	30
PERTUSSIS	2	3	7	9	17	11
RUBELLA	0	0	0	0	3	0
SALMONELLOSIS	50	43	32	159	151	154
SHIGELLOSIS	75	90	38	213	291	234
SYPHILIS, Total	10	10	10	66	43	66
SYPHILIS, Primary & Secondary	7	5	1	35	23	13
TUBERCULOSIS	50	43	41	239	229	211
TYPHOID FEVER	1	0	0	3	4	5
		4				
TOTAL DEATHS REPORTED THIS PERIOD	1,352		1,139	6,583		6,156
Deaths from pneumonia and influenza	133		143	732		662
Medical Examiner cases	288		275	1,405		1,454
Drug-related cases	32		47	218		298
Cocaine-related cases	13		23	99		129

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Injuries to San Francisco Seniors, 1986-93

Overview. The over sixty-five population is at increased risk for injury-related deaths and hospitalizations. While persons over 65 years of age represent approximately 14% of the San Francisco population, they represent approximately 30% of all injury hospitalizations, and 22% of all injury-related deaths (Figures 1 and 2).

Rates for injury-related hospitalizations and deaths rise steadily after the age of sixty-five. Probable causes include slowed or impaired functioning associated with aging, which increases vulnerability to environmental risk factors. In addition, diminished physiological reserves and high prevalence of chronic conditions may result in the increased likelihood of sustaining injuries when potentially injurious events occur. Because of the slower healing process associated with aging there is an increased susceptibility to adverse outcomes including loss of independence, permanent disability, and death (1).

This report looks at injuries to residents of San Francisco over 65 years old.

Causes of Injury, Death, and Hospitalization Among Seniors. Nearly 1,000 San Francisco seniors died of injuries from 1986-1993. Falls were the leading cause of injury-related death in this age group, accounting for nearly a third of all these deaths. Motor vehicle crashes (14.2%), suffocation (13.6%), and firearms (10.3%) were other leading causes of injury death among seniors (Figure 3).

Over 2100 seniors were hospitalized for injuries in 1993 in San Francisco. Falls accounted for nearly 80% of these hospitalizations (Figure 4).

Unintentional Injury: Falls. Most injuries in the elderly are the result of falls. Falls diminish function by causing injury, activity limitations, fear of falling, and loss of mobility. About one quarter of persons aged 65 to 75, and a third or more of those aged 75 and older report a fall in the previous year. About one quarter of falls in the community result in an activity limitation. About 8 to 15 percent of falls cause serious injuries requiring medical care; 3 to 5 percent result in fractures (1).

The death rate (17.8) for unintended falls for San Francisco residents age 65 to 84 years (per 100,000 persons in the population of this age group) is much higher than the rate for Californians in this age group (13.3), and slightly higher than national rates (17.6). It is also significantly higher than the Year 2000 objectives (14.4) (Figure 5).

Rates for fall-related hospitalizations increase dramatically with age. Rates and numbers of fall-related hospitalizations for females overtake those for males after the age of 65, which may be a result of higher rates of bone loss in females (Figure 6).

Pedestrian Vehicular Deaths. A total of 585 San Francisco residents were killed by motor-vehicles between 1986 and 1993. Nearly a third of these (171) were pedestrian deaths. Over 45% of pedestrian deaths were among those age 65 and over. Problem areas for seniors included the

inner Richmond, Downtown, and on Market Street, Van Ness Avenue, and Mission Street. Rates for pedestrian deaths increased dramatically with age, while rates for other motor-vehicular deaths remained constant. While pedestrian death rates were similar to the rest of the nation for those below age 55, rates for older San Franciscans were considerably higher (Figure 7). The majority of pedestrian deaths among seniors occur at intersections, during daylight hours, and to pedestrians who had the right of way.

Intentional Injury: Homicide and Suicide. Homicide rates are much lower for persons in this age group than for younger persons. While many seniors may fear being assaulted, older persons in San Francisco are much more likely to be hospitalized for unintentional injuries, such as falls, than for assault (Figure 8). Hospitalizations for self inflicted injury among seniors are also comparatively few, suggesting the possibility that a greater proportion of suicide attempts are successful. Suicide rates increase steadily after age 60. A total of 261 senior San Franciscans killed themselves between 1986 and 1993, representing over 23% of the population committing suicide. Rates were higher for males than females. Firearms was the most frequent method, followed by hanging, drug overdose and falls (Figure 9).

Cost of Injuries Among Seniors. A total of $35.9 million was spent on injury hospitalizations among senior San Francisco residents in 1993, excluding Kaiser hospitals (Figure 10). This represents nearly 37% of all charges for injury-related hospitalizations, even though seniors represent only 14% of the population. Nearly 80% of charges for seniors was spent on falls. Motor vehicles accounted for 7.6% of total non-Kaiser injury-related hospitalization charges; smoke or flames, poisonings, and being struck by an object accounted for approximately 2% each. Scalds and other factors accounted for the remaining charges. These charges represent bills generated, and exclude revenues collected, physician or other professional fees, follow-up care, rehabilitation, and the wider range of human and economic burdens. For seniors, who frequently require extensive follow-up care, including long-term institutionalization, permanent dependency on family members or attendants, home renovations and other direct and indirect costs, actual costs are considerably higher. A national estimate of lifetime costs from one year's injuries to seniors in the U.S., computed for 1985, was approximately $15 billion dollars (2).

Preventing Injury. The following are currently injury prevention programs in San Francisco which specifically target injury prevention to seniors.

The San Francisco Department of Public Health established the Community and Home Injury Prevention Project for Seniors (CHIPPS) to reduce the rate of unintentional injuries to senior San Francisco residents. CHIPPS provides training, home safety information, pharmacy consultations, and referrals for assistance with home modifications to all interested seniors, and free grab bars to low-income seniors. The project trains medical providers, home care providers, and caregivers on senior injury prevention.

The Center for Elderly Suicide Prevention and Grief Related Services (CESP), formed in 1990 in association with the Mt. Zion Institute on Aging, provides services addressing the special needs of older suicidal adults. The Center was developed to provide a unique combination of crisis intervention and ongoing emotional support and counseling to older persons who are depressed, isolated, lonely, bereaved, abused, and/or acutely suicidal.

The Pedestrian Safety Task Force, created in 1993, was formed to develop solutions to improve pedestrian safety throughout San Francisco. The task force includes the Senior Action Network, Department of Public Health, Department of City Planning, Department of Parking and Traffic, and the San Francisco Police Department. The group develops strategies and implements programs to make the city a more pedestrian friendly environment.

Editorial Note. Most injuries are not random, unpredictable accidents or the inevitable accompaniments of aging, but rather are the result of a combination of modifiable risk factors (3). Prevention strategies require the consideration of a complex set of behavioral, biomedical and environmental risk factors to identify possible interventions. In order to address these concerns it is recommended that the City develop a comprehensive approach to injury prevention by establishing an injury prevention focal point to coordinate surveillance and prevention programs.

Other prevention strategies designed to reduce injury among seniors include: allocating resources to address prevention of major aspects of senior injury, particularly falls, motor vehicle injuries and self-inflicted injuries; and increasing community awareness of the elevated risk of injury to San Francisco seniors. Additionally, it is recommended that all senior services providers in the Health Department, community based organizations, and other agencies prioritize senior injury prevention as an essential component of services; and that the direct services component of the Health Department's CHIPPS Program to provide in-home safety assessment and minor home repairs be re-established.

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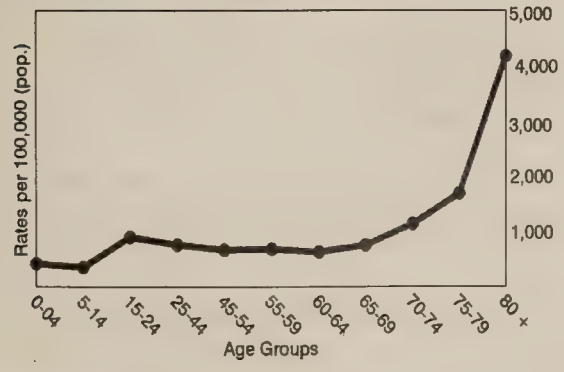
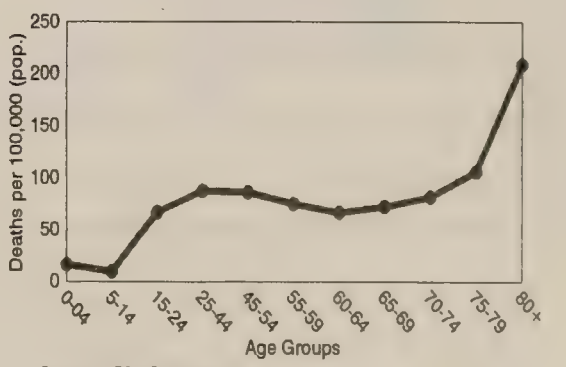
This report was prepared by the San Francisco Department of Public Health, Bureau of Health Promotion and Education. Most of the data were obtained from the "Profile of Injury in San Francisco," August, 1996, a joint project of the San Francisco Injury Center and the San Francisco Department of Public Health. The "Profile of Injury" also contains additional explanation of the sources and limitations of the data, background issues, and technical terms. For technical questions about the data, please contact Gregory Nah, San Francisco Injury Center for Research and Prevention, at SFGH, Building 1, Room 400, S. F., CA 94110, or call (415) 821-8209. For questions about senior issues and prevention programs, or for copies of the "Profile of Injury In San Francisco," please contact Michael Radetsky at: CHIPPS Program, SFDPH, 101 Grove Street, Room 118, S.F., CA 94102, or call (415) 554-2924.

Figure 1. Rates for injury hospitalizations by age, San Francisco, 1993



Source: OSHPD

Figure 2. Rates for injury deaths by age, San Francisco, 1986-1993



Source: CDHS (1993)

Figure 3. Leading causes of injury deaths among seniors, San Francisco, 1986-1993 (n=985)

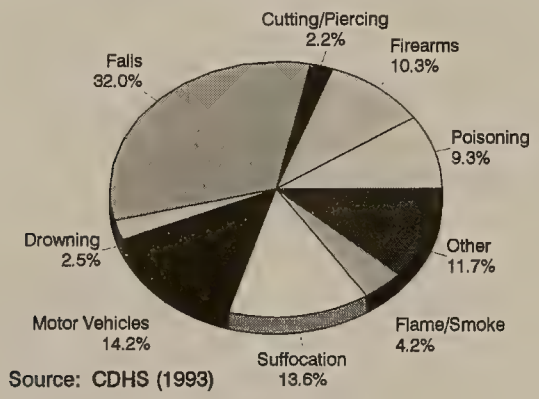


Figure 4. Leading causes of injury hospitalizations among seniors, San Francisco, 1993 (n=2,104)

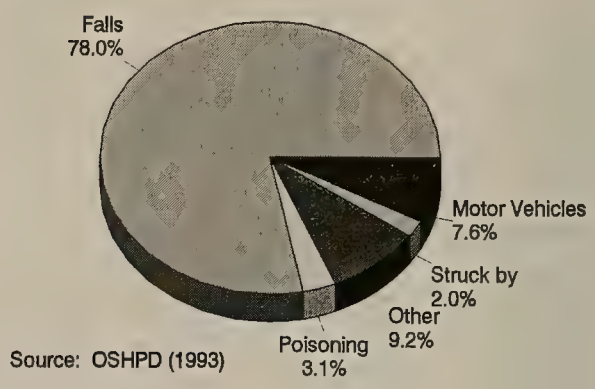
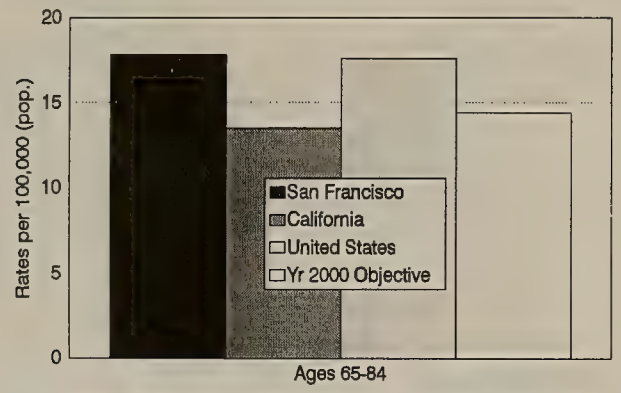
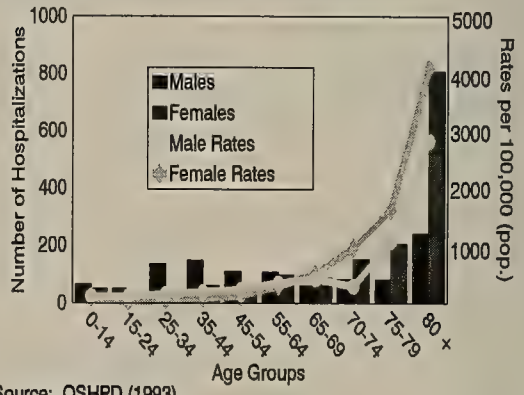


Figure 5. Deaths due to unintended falls: San Francisco, California, U.S. and Year 2000 Objectives



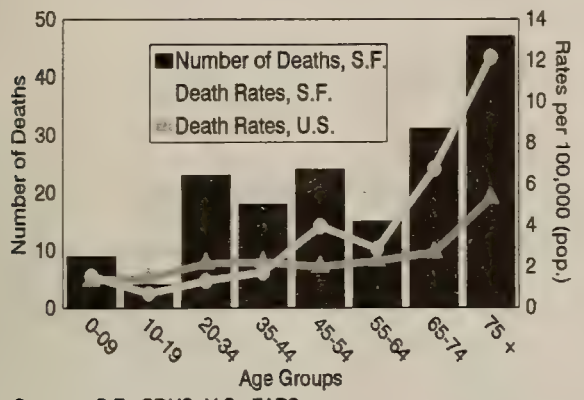
Sources: S.F. (1993) and CA (1992), CDHS; U.S. (1992), CDC, NCHS

Figure 6. Hospitalizations due to falls, by gender and age, San Francisco, 1993



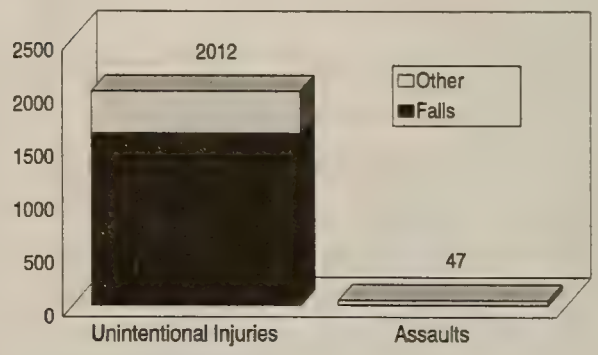
Source: OSHPD (1993)

Figure 7. Pedestrian deaths and death rates by age, San Francisco, 1986-1993 (n=171), and U.S. (1993)



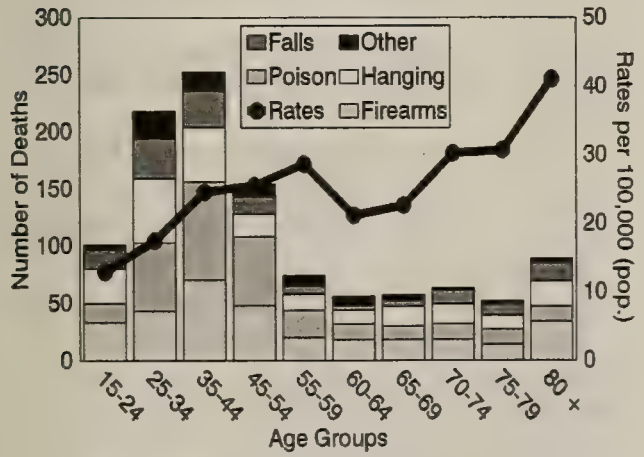
Sources: S.F., CDHS, U.S., FARS

Figure 8. Unintentional injury and assault hospitalizations among seniors, San Francisco, 1993



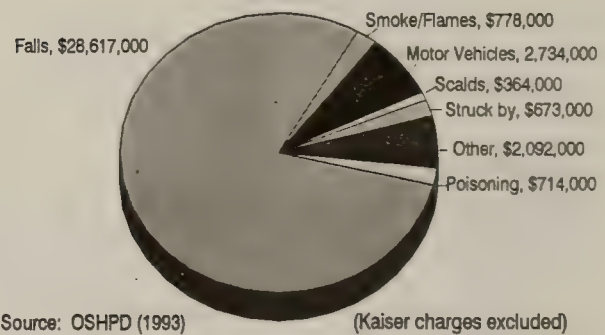
Source: OSHPD (1993)

Figure 9. Suicides by method and age groups, San Francisco, 1986-1993 (n=1,117)



Source: CDHS (1993)

Figure 10. Charges for injury hospitalizations among seniors, San Francisco, 1993



Source: OSHPD (1993) (Kaiser charges excluded)

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

8 WEEK PERIOD ENDING 12/28/96

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 45 THROUGH 52			TOTAL CASES REPORTED TO DATE		
	1994	1995	1996	1994	1995	1996
AIDS	265	227	187	2,188	1,842	1,399
AMEBIASIS	37	25	24	255	282	172
CAMPYLOBACTERIOSIS	94	126	121	615	559	603
CHANCROID	0	0	0	0	0	0
CHLAMYDIAL INFECTIONS	289	342	94	2,381	1,870	1,101
GIARDIASIS	66	40	58	407	410	405
GONORRHEA	247	294	102	2,031	1,704	1,179
H. INFLUENZAE INVASIVE DISEASE	1	0	1	8	32	11
HEPATITIS Type A	48	91	121	293	450	581
HEPATITIS Type B	10	10	18	71	50	61
HEPATITIS Non A - Non B	0	0	0	0	1	0
LISTERIOSIS	1	1	1	2	16	9
LYME DISEASE	0	0	1	1	1	4
MALARIA	1	2	2	14	16	15
MEASLES	0	0	0	2	2	2
MENINGOCOCCAL INFECTIONS	1	0	3	11	25	10
PELVIC INFLAMMATORY DISEASE	18	3	7	115	59	37
PERTUSSIS	3	6	0	12	23	11
RUBELLA	1	0	0	1	3	0
SALMONELLOSIS	40	42	30	199	193	184
SHIGELLOSIS	25	36	23	238	327	257
SYPHILIS, Total	16	4	16	82	47	82
SYPHILIS, Primary & Secondary	8	0	4	43	23	17
TUBERCULOSIS	41	41	48	280	270	259
TYPHOID FEVER	1	0	0	4	4	5
TOTAL DEATHS REPORTED THIS PERIOD	1,129	1,078		7,712	7,234	
Deaths from pneumonia and influenza	120	156		852	818	
Medical Examiner cases	289	257		1,694	1,711	
Drug-related cases	66	49		284	347	
Cocaine-related cases	28	20		127	149	

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Vol. 13 Nos. 3/4 (Mar./Apr. 1997)

7 Tuberculosis in San Francisco, 1996

SAN FRANCISCO
EPIDEMIOLOGIC BULLETIN

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Tuberculosis in San Francisco, 1996

Introduction. In 1996, 261 new cases of active tuberculosis (TB) were reported in San Francisco. Compared with 1995, this represents a 3.4% decline in cases. This is the third consecutive year to show a decrease in the number of new TB cases overall, and the fourth year of decline in U.S. born cases. The decline likely reflects the impact of more intensive contact investigation, targeted screening of higher risk groups and the use of preventive therapy. Despite these promising statistics, TB in San Francisco continues to be a serious problem. TB case rates for San Francisco are 4 times the national rate and double the California rate. HIV, substance use, poverty, homelessness, and immigration continue to fuel the high rates of TB. For 1997, completion of preventive therapy through the use of directly observed preventive therapy (DOPT) will be expanded to address the most difficult of these high risk groups.

TB/HIV. From a high of 82 TB cases with AIDS in 1991, there has been a regular decline until 1996, when 41 patients with TB were known to also have AIDS (Figure 1). This number is a minimum estimate and may increase as some TB patients with unrecognized HIV infection are either tested for HIV or develop other manifestations of HIV disease. Between 1988 and 1995, 20% to 25% of TB cases in San Francisco also had AIDS. In 1996 a substantial decline occurred with 16% of cases having the dual diagnosis of TB and AIDS as compared to 22% in 1995. High rates of homelessness continue to plague this group, ranging from 20-45% between 1993 and 1996. Up until 1995 patients with HIV/TB dual diagnoses have been predominately U.S. born, younger, and white. In 1996, for the first time, a larger proportion of African American HIV/TB cases was seen.

Country of Birth. In 1996, 69% of new active cases of TB occurred among foreign-born residents of San Francisco. Compared with 1995, the number of foreign-born cases increased by 5% and U.S. born cases significantly declined by 17% (Figure 2). The large majority of foreign-born cases occurred in Asian immigrants, primarily Chinese, Southeast Asian, and Filipino.

Age. Unlike 1995, TB case rates increased in all age groups except the elderly (Figure 3). Six cases occurred in children under 15. Five out of the six pediatric TB cases occurred in US born children of foreign born parents. Three cases were found through contact investigation, two from private provider referrals, and one from mandatory school entry TB screening. Among persons older than 44 years of age, the rate of active TB cases per 100,000 decreased from 74.9/100,000 in 1995 to 65.1/100,000 in 1996. Wide fluctuations in TB case rates among older individuals continue to occur unpredictably.

Race/Ethnicity. Tuberculosis cases remained constant among African Americans and declined among non-Hispanic whites in 1996. (Figure 4 and Table 1). Hispanic TB cases have ranged between 11% and 14% over the last 5 years (13% for 1996). Asian cases increased from 51% to 56% with Chinese-born cases accounting for all of the increase. The majority of these cases were over 55 years of age and are thought to be from reactivation. Rates among minorities remain substantially higher than among the non-Hispanic white population (from 2.7 to 5.9 times the rate among non-Hispanic whites), underscoring the

need to continue targeted education, screening, and contact investigation among underserved minority populations.

Drug Resistance. Of the 261 new active cases of TB reported in 1996, 215 had positive cultures for *M. tuberculosis* and had susceptibility testing done (Table 2). Of the 215 with culture positive cases, overall resistance to at least one drug increased from 16.6% in 1995 to 20.4% in 1996. Isoniazid (INH) resistance was documented in 11.6% of isolates, increasing from 8.1% in 1995. Rifampin resistance increased from 1.7% in 1995 to 3.2% of cases in 1996. Pyrazinamide resistance was also higher at 1.8% of cases. The high rate of combined single drug resistance in San Francisco underscores the need for the routine use of 4 drug therapy (INH, rifampin, ethambutal, and pyrazinamide) at the onset of treatment. MDR-TB, defined as resistance to at least INH and rifampin, continues to be low in San Francisco occurring in only 2 cases in 1996, or 0.9% of isolates. MDR-TB has ranged between 1-2% for the past 5 years (Table 2). The two MDR-TB cases in 1996 occurred among foreign-born persons who had extensive prior treatment for tuberculosis.

Social Factors. In San Francisco, homelessness and substance abuse continue to play an important role in tuberculosis. Despite the decline in overall cases over the last 3 years, TB cases among the homeless and injecting drug users (IDUs) increased between 1993 and 1995 (Table 3). By census tract data, TB case rates in areas that have the highest density of homeless and transiently housed individuals are 200-300 cases per 100,000 population which are rates comparable to those in Central Africa and 30 times the national case rate. Homeless cases peaked in 1995 accounting for 18.6% of all TB cases. Among the homeless, 67% to 82% are U.S. born, and have an exceptionally high rate of substance abuse (Table 4). Between 1993 and 1996, of those whose substance histories were known, 73% to 94% abused alcohol, injected substances, or used other illicit drugs (94% in 1996). For the past three years one in four TB cases (25%) in San Francisco were substance abusers.

HIV seroprevalence for IDU/TB cases in 1996 was 65% compared to 12% for non-IDU/TB cases. Additionally, HIV infection is higher for homeless TB cases when compared to overall cases (Table 5).

Editorial Note. 1996 is the first year in four to see a decline in TB cases among the homeless and injecting drug using populations. The utilization of methadone clinics to screen and assist in the completion of preventive therapy as well as screening of high risk shelters, single room occupancy hotels and directly observed preventive therapy may be making its impact. Continuing these activities and ensuring the completion of preventive therapy in the dually infected HIV/TB injecting drug user and/or homeless patient will continue to be emphasized by the TB Control Division.

To report a known or suspected case of tuberculosis, please phone, FAX, or mail a CMR card to:

San Francisco Department of Public Health, TB Control Division
San Francisco General Hospital, Ward 94
1001 Potrero Avenue, San Francisco, CA 94110
Phone: (415) 206-8524 FAX: (415) 648-8369

For information about the diagnosis and treatment of TB and TB infection, contact the San Francisco TB Division at (415) 206-8524.

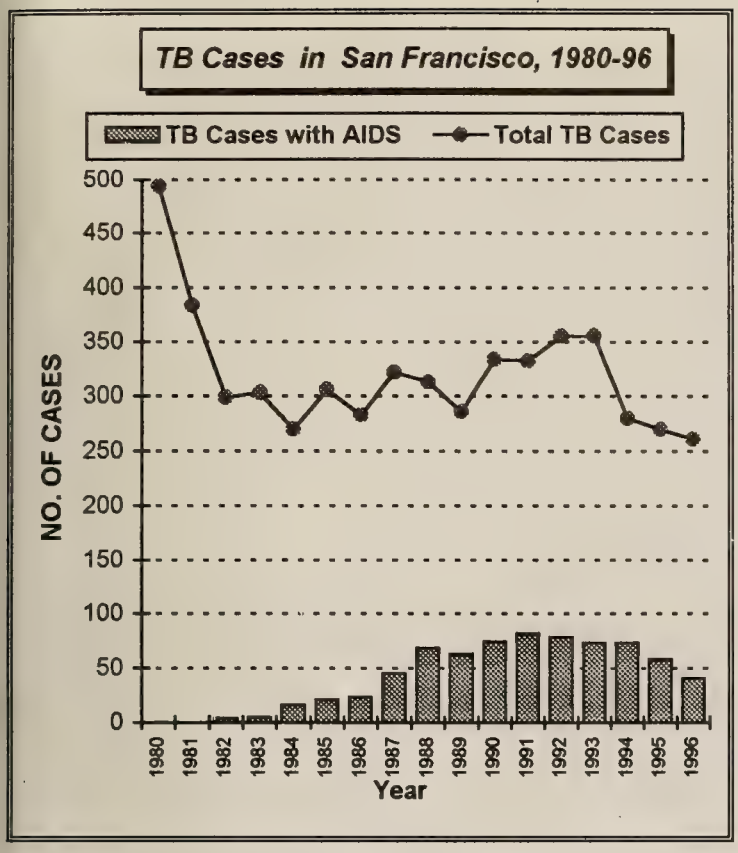


Figure 1

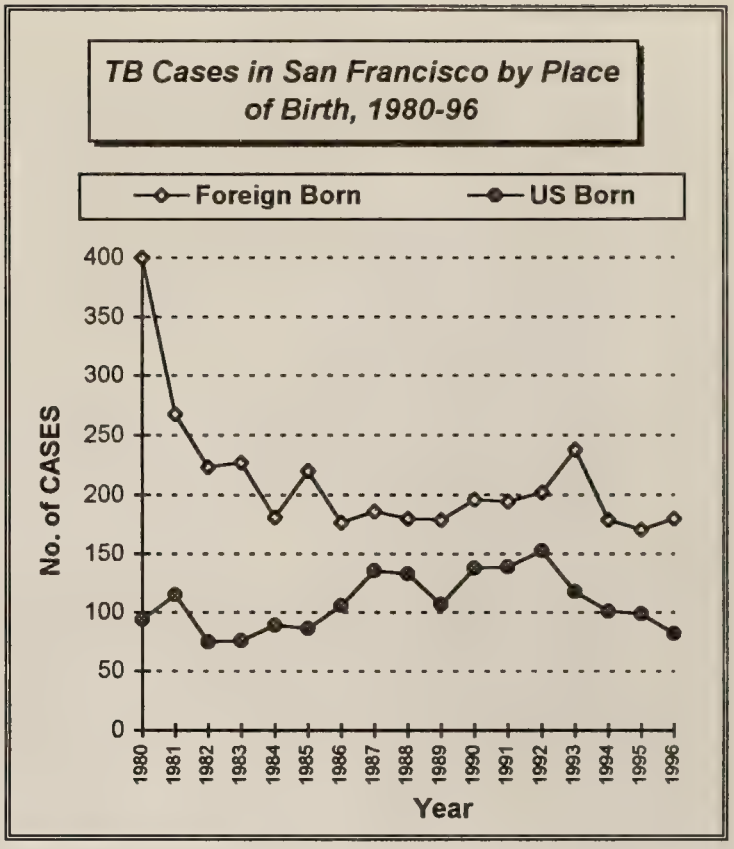


Figure 2

Figure 3

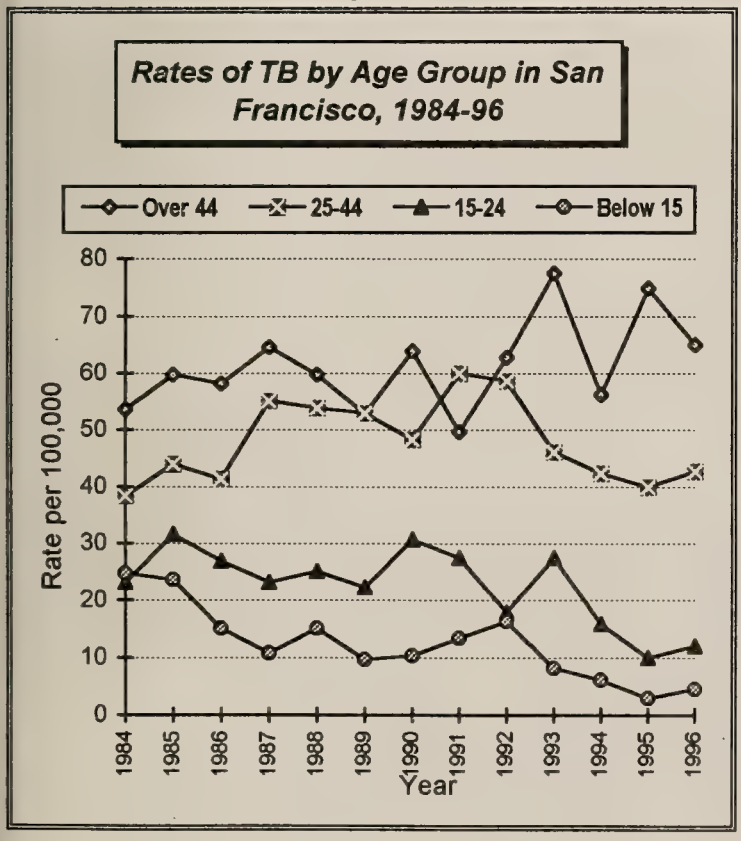
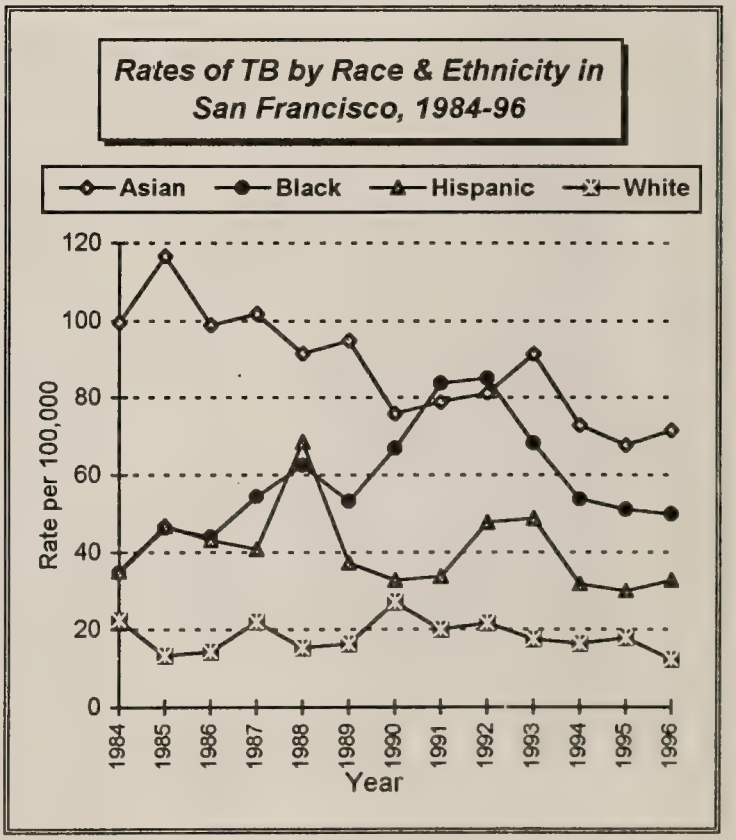


Figure 4



(Table 1)

TB Cases in San Francisco by Ethnic Group 1992-1996										
	1992 (N=355)		1993 (N=356)		1994 (N=280)		1995 (N=270)		1996 (N=261)	
ETHNIC GROUP	#	%	#	%	#	%	#	%	#	%
Asian	167	47%	188	53%	150	54%	139	51%	147	56%
Chinese	*75*		*90*		*79*		*56*		*69*	
Filipino	*60*		*61*		*51*		*55*		*44*	
SE Asian	*17*		*27*		*11*		*19*		*27*	
Other Asian	*15*		*10*		*9*		*9*		*7*	
White	73	21%	59	17%	55	19%	60	22%	41	16%
African Amer.	65	18%	52	15%	41	15%	39	14%	38	15%
Hispanic	48	14%	49	13%	32	11%	30	11%	33	13%
Other	2	1%	7	2%	2	1%	2	1%	2	1%

(Table 2)

Drug Resistance in Culture-positive TB Cases Diagnosed in 1992 - 96					
	1992 N= 286	1993 N= 318	1994 N= 242	1995 N=232	1996 N=215
DRUG	% Resistant	% Resistant	% Resistant	% Resistant	% Resistant
INH	9.7%	12.5%	7.8%	8.1%	11.6%
Rifampin	3.4%	1.5%	3.7%	1.7%	3.2%
Ethambutol	1.7%	0.3%	1.6%	1.7%	1.3%
Strep	3.8%	5.0%	6.1%	11.2%	7.9%
PZA	0.6%	2.2%	0.8%	0.8%	1.8%
Any Drug	12.2%	17.2%	12.8%	16.6%	20.4%
MDR (INH+Rif)	2.0%	0.9%	2.1%	1.2%	0.9%

(Table 3)

TB Cases and Social Factors 1993 - 1996						
	Homeless*		Substance Abuse* (ETOH, IDU, Other)		IDU (Injection Drug User)	
YEAR	#	%	#	%	#	%
1993	41	12%	55	17.3%	16	5%
1994	42	15%	66	24%	19	7%
1995	50	18.6%	64	25%	26	10%
1996	33	13%	60	25%	20	8%

(Table 4)

COMPARISON OF TB Cases by Homeless Status* 1996		
	% US Born	% Substance Abuse
All Cases	31%	25%
Non-Homeless	21%	15%
Homeless	76%	94%

(Table 5)

COMPARISON OF HIV TB Cases* 1993-1996				
YEAR	IDU % HIV(+)	Non- IDU % HIV(+)	Homeless % HIV(+)	All Cases % HIV(+)
1993	56%	19%	44%	21%
1994	63%	26%	44%	26%
1995	69%	16%	48%	21%
1996	65%	12%	23%	16%

***Calculations based on cases known to be homeless, substance abusers, or HIV (+)**

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

9 WEEK PERIOD ENDING 3/1/97

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 1 THROUGH 9			TOTAL CASES REPORTED TO DATE		
	1995	1996	1997	1995	1996	1997
AIDS	331	281	194	331	281	194
AMEBIASIS	47	23	34	47	23	34
CAMPYLOBACTERIOSIS	99	94	110	99	94	110
CHANCROID	0	0	0	0	0	0
CHLAMYDIAL INFECTIONS	381	505	64	381	505	64
GIARDIASIS	71	77	59	71	77	59
GONORRHEA	288	362	85	288	362	85
H. INFLUENZAE INVASIVE DISEASE	1	4	1	1	4	1
HEPATITIS Type A	63	96	128	63	96	128
HEPATITIS Type B	7	8	5	7	8	5
HEPATITIS Non A - Non B	0	0	0	0	0	0
LISTERIOSIS	3	1	0	3	1	0
LYME DISEASE	0	1	0	0	1	0
MALARIA	4	2	0	4	2	0
MEASLES	0	0	0	0	0	0
MENINGOCOCCAL INFECTIONS	3	1	5	3	1	5
PELVIC INFLAMMATORY DISEASE	21	4	2	21	4	2
PERTUSSIS	1	0	1	1	0	1
RUBELLA	1	0	0	1	0	0
SALMONELLOSIS	32	28	24	32	28	24
SHIGELLOSIS	50	60	39	50	60	39
SYPHILIS, Total	6	6	14	6	6	14
SYPHILIS, Primary & Secondary	3	3	2	3	3	2
TUBERCULOSIS	41	37	42	41	37	42
TYPHOID FEVER	0	1	0	0	1	0
TOTAL DEATHS REPORTED THIS PERIOD	1,463	1,325		1,463	1,325	
Deaths from pneumonia and influenza	165	217		165	217	
Medical Examiner cases	345	277		345	277	
Drug-related cases	37	53		37	53	
Cocaine-related cases	14	25		14	25	

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Vol. 13, Nos. 5/6 May/June 1997

SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

13 Mortality Data Summary, San Francisco 1995

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Mortality Data Summary, San Francisco, 1995

INTRODUCTION. Patterns of mortality are an important element of public health surveillance. Mortality data can be used to monitor the general health of the population and changes in health over time. The identification of the major causes of death and of the population groups at higher risk is important for health care services planning, health policy decisions, and epidemiologic research.

This report is a summary of mortality data for San Francisco residents in 1995. Additional mortality data tables that display the ten leading causes of death and the five leading causes of death stratified by sex, racial/ethnicity, and age group are also available.*

METHODS. Computerized death certificate data sets were obtained from the California Department of Health Services, Data Retrieval and Analysis Section. These data included all certified deaths of San Francisco residents including those who died outside of the county and/or state.

Information was available on age, sex, racial/ethnic group, and coded cause of death. Racial/ethnic groupings included White, African American, Latino (Hispanic), and Asian/Other. Factors limiting further ethnic breakdown of the Asian/Other group include the small number of deaths in other ethnic groups such as American Indian, Alaskan/Aleutians and the population estimates by ethnic group supplied by the State.

International Classification of Diseases, Ninth Revision (ICD-9) codes for the underlying cause of death from the death certificate were classified into major diagnostic groupings. The grouping procedure for cause of death was identical to the system used by the State of California and were used to identify the proportionate leading causes of death [1]. Due to the new AIDS classification categories instituted in 1987, cause of death data for 1987-1995 are not strictly comparable with those for previous years.

San Francisco mortality rates for 1995 were calculated using population estimates for 1995 provided by the California Department of Finance. Age standardization was done by the direct method using the 1940 US standard million [2]. When comparing standardized rates among groups for statistically significant differences, the variance of the adjusted death rate (ADR) was calculated by using the weighted average of the variances of the age-specific death rates (ASDR) [3].

For mortality rates, leading specific causes of death were ranked using San Francisco, Department of Public Health Burden of Disease and Injury Study classification scheme [4].

Years of potential life lost (YPLL's), an indicator of premature deaths, was calculated for 1995 by subtracting ages at death from 75 [5]. Ages greater than 75 were zero weighted.

RESULTS

Proportionate Mortality. During 1995 7840 San Francisco residents died (Table 1). The leading cause of death was heart disease (26.6%

* Information of how to obtain copies of the 1995 tables for San Francisco is given at the end of this report.

in 1995), followed by cancer (20.4%), and AIDS (13.4%, [males 22.5%, females 1%]). Lung cancer was the leading cause of cancer deaths for both sexes (data not shown). Deaths due to injuries combined (including unintentional injuries, homicide, and suicide), accounted for 4.4%. The number of total deaths declined in the last three years, after peaking in 1992 (8345 deaths) [6]. Males accounted for 58% of all deaths.

Figure 1a illustrates cause-specific proportional mortality by sex. Despite a decrease in AIDS deaths in the last three years, AIDS remained the leading cause of death for males in San Francisco followed by heart disease and cancer. Among females, the leading causes of death in 1995 were heart disease, cancer, and stroke.

AIDS was also the leading cause of death in White and Latino males (Figure 1b) followed by heart disease and cancer. In contrast, heart disease, cancer and, cerebrovascular disease were the leading causes of deaths in Asian males. Cancer was the leading cause of death for African Americans followed closely by heart disease and AIDS.

Unlike males, the proportion of deaths by cause for females was similar across ethnic/racial groups (Figure 1c). African Americans females had the highest proportional mortality in AIDS, and Asian/Other females had a high proportion of cerebrovascular deaths when compared with the other racial/ethnic groups. Deaths due to unintentional injuries were highest for Latino and African American females.

Figure 2a and 2b show the annual count for the three leading causes of death for the period 1987-1995. A nine-year trend shows a decline in the number of deaths due to heart disease for males as well as a continuous decrease in the number of AIDS deaths since 1992 (after increasing since 1987). Figure 2b shows a slight decline in the number of females deaths due to heart disease. Cancer and cerebrovascular disease deaths in females remained virtually at the same level during the period.

Mortality Rates. The age-adjusted all-cause mortality rates were at its lowest since 1987 (data not shown). Except for Latinos, all-cause mortality rate was also at its lowest across ethnic groups. When considering both sex and ethnicity, White and African American males, and all females were also at their lowest rates since 1987.

Age-adjusted AIDS mortality rates for White males continued to decline and was at it lowest since 1992 (Figure 3a). Age-adjusted AIDS rates for African American males also declined for the first time after steadily increasing since 1990 (Figure 3a). Age-adjusted AIDS mortality rates for African American females also declined for the first time since 1991 (Figure 3b).

Age-adjusted AIDS mortality rate for Asian/Other males increased 65% from last year (183% since 1993) to become the highest AIDS mortality rate for this group since 1987. Comparisons of the age-adjusted 1995 and 1993 AIDS mortality rates showed a statistically significant increase for this group. Although AIDS mortality for Asian/Others is still low compared with other groups, the data shows it to be rising.

Age-adjusted mortality rates for the leading specific causes are presented in table 2. In all causes listed (except for breast cancer), males had significantly higher mortality rates than females. For the specific causes of death listed, African Americans had higher, statistically significant mortality rates due to ischemic heart disease, stroke, drug poisoning, and homicide. African American males also showed higher statistically significant mortality rates due to lung cancer. Latino males had significant lower rates due to Chronic Obstructive Pulmonary Disease (COPD) and Latino females, significantly lower colorectal cancer. Asian/Others males had significantly lower rates due to liver disease and Asian/Others females, significantly lower rates due to AIDS (females). Unlike previous years, AIDS mortality rates for African Americans males was not significantly different than for Whites. African American females had

significantly higher AIDS age-adjusted mortality rates than any other racial/ethnic group.

Years of Potential Life Lost. AIDS was the primary cause of premature death in San Francisco accounting for 37.7% of total YPPL (Table 3). Males accounted for almost 81% of the total YPLL's, primarily because of AIDS (44.8% of males YPLL's). Injuries (including unintentional, homicide, and suicide) represented 18.9% percent of total YPLL's (up from 16% in 1994) [7]. Among females, cancer accounted for 28.4% of total YPLL's followed by heart disease (12.3%).

EDITORIAL NOTE. Although the relative importance of the leading causes of death vary by gender, race, and age, it is clear that the most important causes of death in San Francisco residents are heart disease, cancer, AIDS, injuries, and cerebrovascular disease.

The high number and importance of AIDS/HIV deaths, especially in young and middle-aged males, helps explain the high age-specific mortality rates for those age groups and contributes to the elevation of age-adjusted rates as compared with the state (not shown). In addition to AIDS, injuries, both unintentional and intentional, had very unequal distributions of mortality with higher rates for males, young adults, Latinos, and African Americans.

Mortality data is an important tool to assess the burden of disease and injury in a population. However, the use of death certificate-based data has several limitations. Some limiting factors include cause of death misclassification and misclassification of race/ethnicity [8,9]. In addition, the population estimates used for calculating rates are intercensal for years before 1990 and are projections for years after 1990. The accuracy of these estimates is uncertain.

Another limitation is that restricting analyses to the underlying cause of mortality means that contributory causes are not considered, e.g. smoking and alcohol/drug abuse [10]. Lastly, mortality analysis does not measure disease and injuries that contribute to morbidity but do not also substantially contribute to mortality.

The magnitude of the AIDS epidemic in San Francisco calls for continuing efforts to assure adequate clinical and social services for HIV-infected people and to support programs that prevent HIV transmission

Among the leading causes of deaths, African American males and females have the highest age-adjusted mortality in almost all categories. African American males also have the highest homicide mortality rate. Additionally, the high and increasing rate of AIDS deaths for African Americans calls for special studies in this population.

The potential years of life lost also underscores the seriousness of the injury problem. Community efforts to prevent both intentional and unintentional injury are beginning to increase with the attention of public health and policy initiatives in San Francisco.

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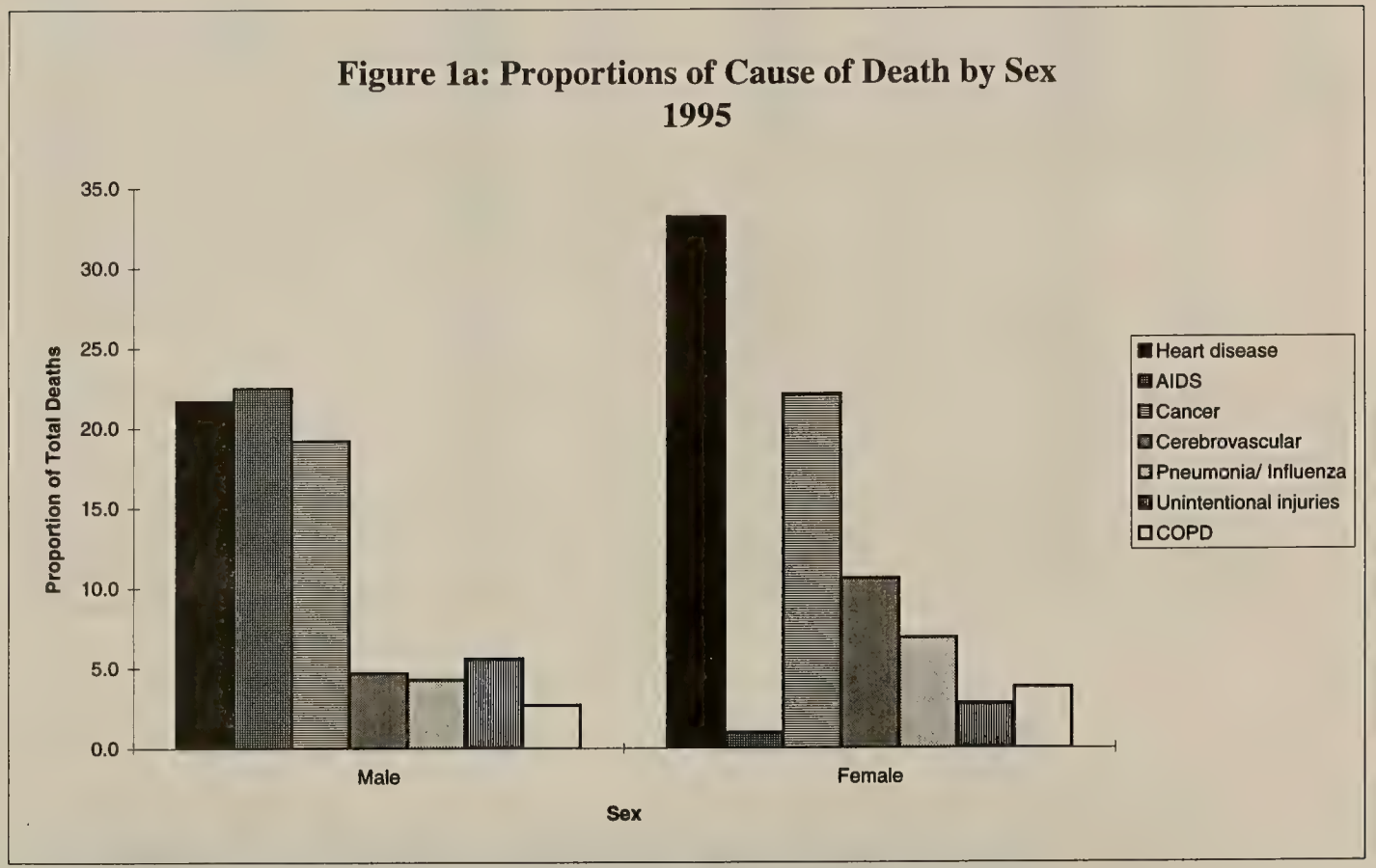
To obtain copies of the 1995 mortality tables for San Francisco please send a written request and a self-addressed mailing label to: ***Ricardo Bermúdez, San Francisco Department of Public Health, Chronic Disease Epidemiology, 25 Van Ness Ave, Suite 500, San Francisco CA. 94102****. Please do not telephone your request.*

Table 1. Leading Causes of Death by Sex
San Francisco, 1995

Cause of Death	Females		Males		Totals	
	Cases	%	Cases	%	Cases	%
Heart Disease	1105	33	979	22	2084	27
Cancer	737	22	866	19	1603	20
AIDS	34	1	1014	22	1048	13
Stroke	352	11	211	5	563	7
Pneumonia and influenza	230	7	192	4	422	5
Unintentional Injuries	93	3	252	6	345	4
Pulmonary Disease	128	4	121	3	249	3
Suicide	38	1	121	3	159	2
Diabetes	56	2	39	1	95	1
Drug Overdose	31	1	132	3	163	2
Other	556	17	716	16	1272	16
Total	3329	100	4511	100	7840	100

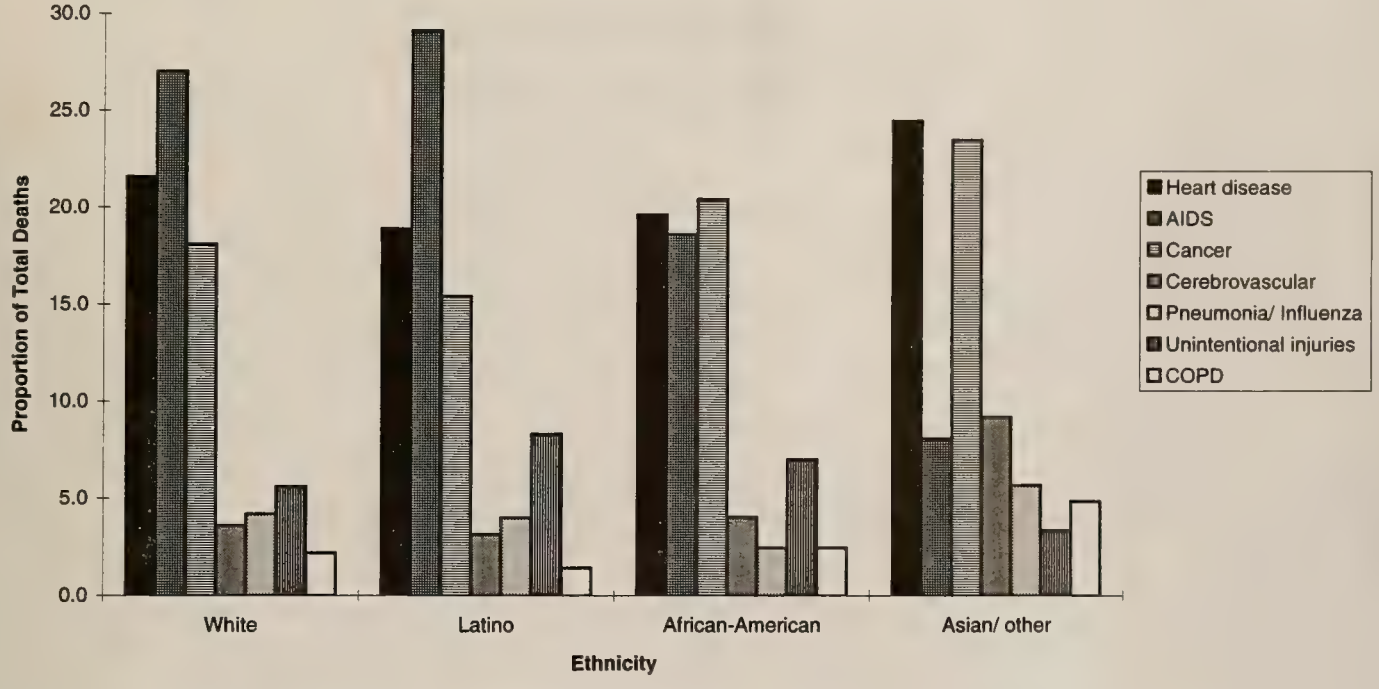
** Drug Overdose is a component of Unintentional Injuries.*

Figure 1a: Proportions of Cause of Death by Sex 1995



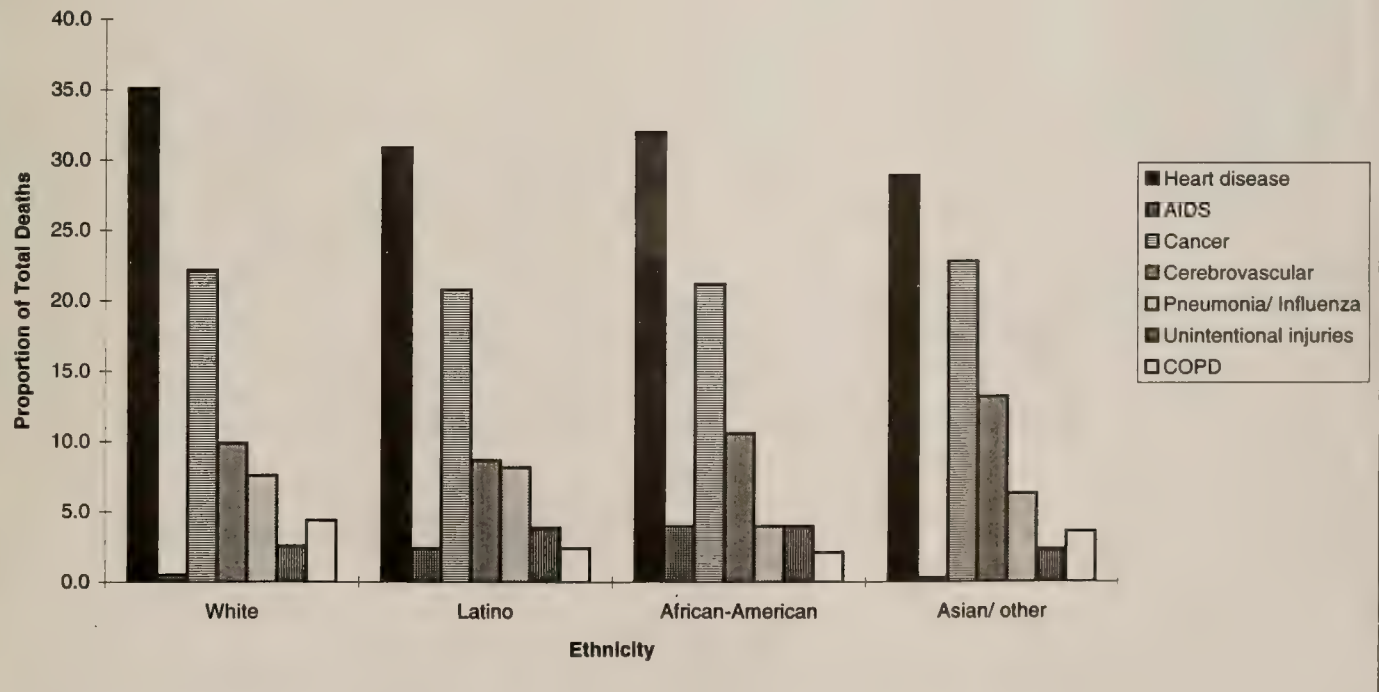
COPD: Chronic Obstructive Pulmonary Disease

Figure 1b: Proportions of Cause of Death by Ethnicity Males - 1995



**COPD: Chronic Obstructive Pulmonary Disease*

Figure 1c: Proportions of Cause of Death by Ethnicity Females - 1995



**COPD: Chronic Obstructive Pulmonary Disease*

Figure 2a. Leading Causes of Death San Francisco Males, 1987-1995

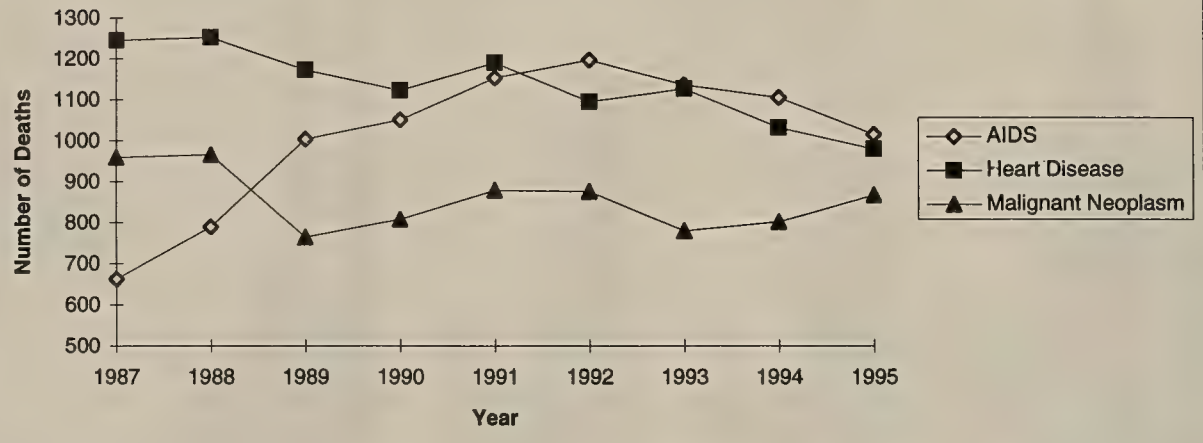


Figure 2b. Leading Causes of Death San Francisco Females, 1987-1995

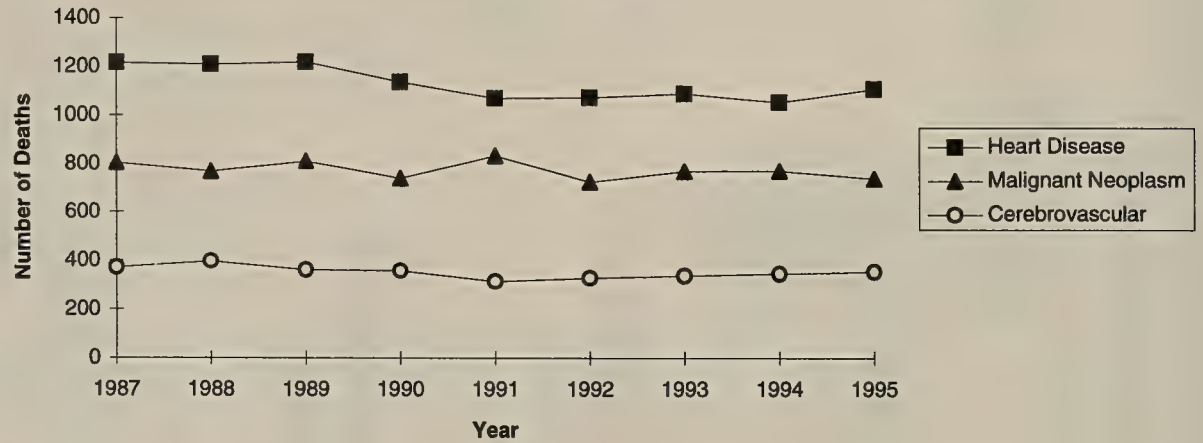


Figure 3a. Age Adjusted AIDS Mortality Rates by Race/Ethnicity San Francisco Males 1987-95

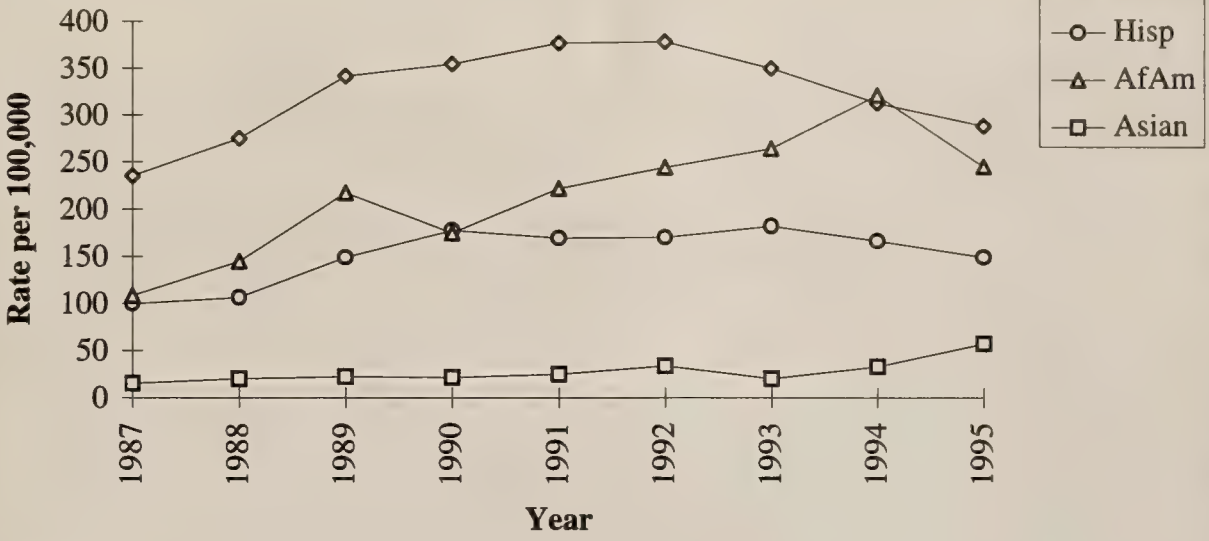
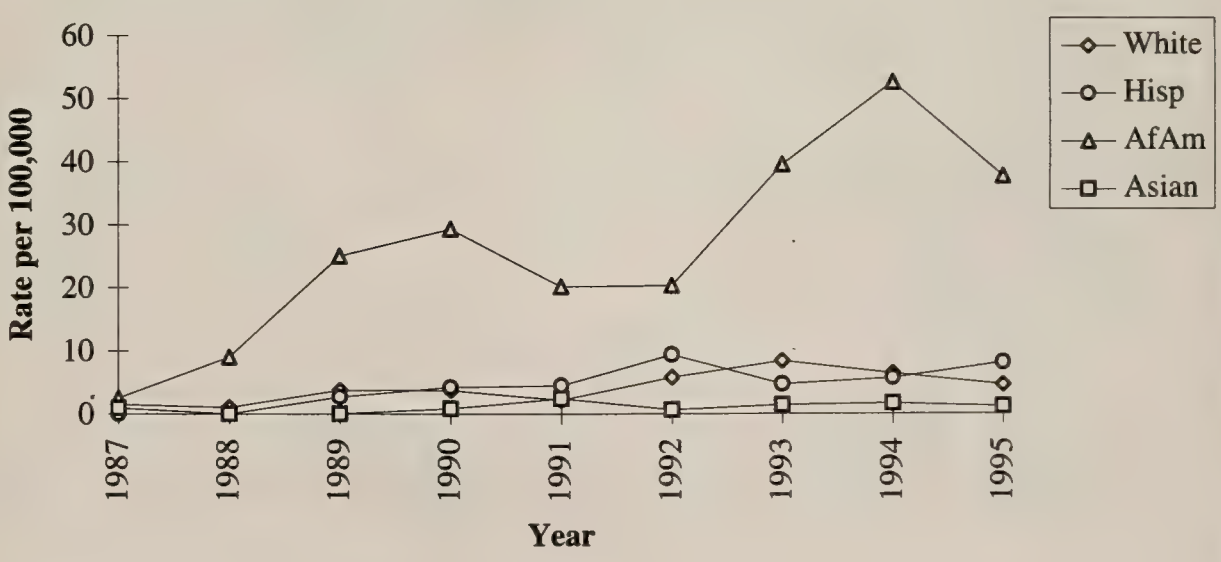


Figure 3b. Age Adjusted AIDS Mortality Rates by Race/Ethnicity San Francisco Females 1987-95



** Female and male rates are at different scales*

Table 2. Age-Adjusted Mortality Rates for the Leading Specific Causes of Death San Francisco, 1993-95

(per 100,000)

Table 2a. Females

Specific Cause of Death	Females				
	White	Af/Am	Latino	As/Oth	Total
Ischemic heart disease	68.9	126.7	39.7	42.5	64.3
Cerebrovascular (Stroke)	22.5	48.8	12.6	25.9	25.1
Lung cancer	27.8	32.8	8.5	12.5	21.0
Breast cancer	19.7	29.7	12.1	11.8	17.2
Lower respiratory (Pneumonia)	13.2	18.9	6.9	9.9	12.4
Colorectal cancers	11.2	16.4	4.2	10.1	10.4
COPD*	13.7	11.0	3.7	5.1	9.8
HIV infection/AIDS	6.3	43.1	6.1	1.4	8.5
Suicide	9.0	6.7	1.3	6.3	7.0
Drug poisoning	8.8	20.4	3.3	0.5	6.7
All causes	355.5	626.2	197.7	237.1	327.2

*** COPD: Chronic Obstructive Pulmonary Disease**

Table 2b. Males

Cause of Death	Males				
	White	Af/Am	Latino	As/Oth	Total
HIV infection/AIDS	316.8	277.4	164.8	36.8	222.7
Ischemic heart disease	160.8	231.2	84.4	93.5	138.2
Lung cancer	45.5	73.3	13.8	33.4	41.0
Cerebrovascular (Stroke)	26.7	53.5	19.9	33.5	31.0
Lower respiratory (Pneumonia)	29.6	39.3	20.2	20.4	27.4
Suicide	41.4	21.5	14.2	10.2	24.7
Drug poisoning	30.6	55.7	17.5	2.6	23.2
Homicide	10.2	90.2	22.4	11.1	22.4
COPD	20.3	22.3	4.5	15.4	17.5
Chronic liver & Cirrhosis	19.3	21.8	21.8	5.6	16.0
All causes	999.5	1336.5	581.2	454.5	835.2

** The 1940 U.S. standard million was used to calculate the age-adjusted rates.*

Table 3. Years of Potential Life Lost* by Cause of Death and Sex
San Francisco, 1995

Cause of Death	Females		Males		Totals	
	Years	%	Years	%	Years	%
AIDS	1241	7	32914	45	34155	38
Cancer	4908	28	6959	9	11867	13
Unintentional Injuries	1889	11	7549	10	9438	10
Heart Disease	2117	12	6083	8	8200	9
Suicide	861	5	3524	5	4385	5
Homicide	491	3	2783	4	3274	4
Perinatal**	1019	6	1330	2	2349	3
Stroke	784	5	1012	1	1796	2
Pneumonia and Influenza	310	2	1314	2	1624	2
Liver	323	2	1464	2	1787	2
Other	3313	19	8478	12	11791	13
Total	17256	100	73410	100	90666	100

** Based on 75 year life expectancy.*

*** Includes Sudden Infant Death Syndrome, Congenital Anomalies and Perinatal Conditions.*

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

9 WEEK PERIOD ENDING 5/3/97

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 10 THROUGH 18			TOTAL CASES REPORTED TO DATE		
	1995	1996	1997	1995	1996	1997
AIDS	355	277	189	686	558	383
AMEBIASIS	53	33	55	100	56	89
CAMPYLOBACTERIOSIS	86	75	82	185	169	192
CHANCROID	0	0	0	0	0	0
CHLAMYDIAL INFECTIONS	292	85	119	673	590	183
GIARDIASIS	86	61	58	157	138	117
GONORRHEA	306	59	110	594	421	195
H. INFLUENZAE INVASIVE DISEASE	8	1	3	9	5	4
HEPATITIS Type A	69	105	183	132	201	311
HEPATITIS Type B	15	10	6	22	18	11
HEPATITIS Non A - Non B	0	0	0	0	0	0
LISTERIOSIS	4	3	0	7	4	0
LYME DISEASE	0	1	0	0	2	0
MALARIA	1	2	5	5	4	5
MEASLES	1	0	0	1	0	0
MENINGOCOCCAL INFECTIONS	3	2	10	6	3	15
PELVIC INFLAMMATORY DISEASE	11	0	5	32	4	7
PERTUSSIS	5	1	2	6	1	3
RUBELLA	1	0	0	2	0	0
SALMONELLOSIS	12	26	19	44	54	43
SHIGELLOSIS	33	56	29	83	116	68
SYPHILIS, Total	13	5	14	19	11	28
SYPHILIS, Primary & Secondary	6	2	3	9	5	5
TUBERCULOSIS	48	49	32	89	86	74
TYPHOID FEVER	3	2	1	3	3	1
TOTAL DEATHS REPORTED THIS PERIOD	1,293	1,112		2,756	2,437	
Deaths from pneumonia and influenza	138	155		303	372	
Medical Examiner cases	304	253		649	530	
Drug-related cases	69	37		106	90	
Cocaine-related cases	36	15		50	40	

CITY AND COUNTY OF SAN FRANCISCO
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SAN FRANCISCO EPIDEMIOLOGIC BULLETIN

25 ACIP/AAP Recommendations for Hepatitis A Immunization

ACIP/AAP Recommendations for Hepatitis A Immunization

INTRODUCTION. San Francisco has consistently had hepatitis A (HAV) rates higher than the nation as a whole. Since 1995 our rates have been above the threshold of 50/100,000 which is the rate that defines an outbreak (Figure 1). If cases continue at the current rate we will reach a rate of 115/100,000 for 1997. The present outbreak is the first in which we have vaccine to use as a tool for prevention and control.

Here are the somewhat redacted recommendations from the Advisory Committee on Immunization Practices (ACIP) and the American Academy of Pediatrics for the use of hepatitis A vaccine (1,2).

THE NEW WEAPONS. In the past two years, two inactivated hepatitis A vaccines have been licensed in the United States: Havrix® (SmithKline Beecham) and VAQTA® (Merck). Both vaccines are highly immunogenic (able to induce antibodies) and efficacious (able to prevent disease). Studies of Havrix indicate that protective levels of antibodies develop in 88% of adults within 15 days of the first dose, rising to 99-100% within a month; after administration of both doses of VAQTA, 95% and 100% of adults had protective levels of antibody at 1 and 7 months, respectively. Similar high rates of seroconversion are seen in children 2 years and up (few data about younger children are available).

Although apparently adequate, postvaccination IgG titers are typically 10-100 fold lower than those produced by natural infection and usually below detection limits of most commercial lab assays. IgM responses are also rarely detectable.

In a double-blind, placebo-controlled, randomized, clinical trial among 40,000 children in Thailand, Havrix was 94% effective in protecting against clinical hepatitis A after two doses of vaccine given 1 month apart. Another similar trial conducted among 1000 children in a New York community with a high incidence of hepatitis A showed VAQTA to be 100% effective after one dose of vaccine.

When used in communities with extremely high incidence rates (>700/100,000), e.g., some Alaskan Native and American Indian communities, vaccination programs have resulted in substantial declines in disease rates. In communities with merely epidemic rates (50-200/100,000) e.g. San Francisco, immediate benefits have been harder to demonstrate.

ABOUT THE VACCINES. Both vaccines are made from HAV grown in human fibroblasts, formalin-inactivated, and absorbed to an aluminum hydroxide adjuvant. Vaccine must be stored at 2-8°C; freezing will destroy its potency. Shots are given IM in the victim's deltoid (Table 1).

Either vaccine can be given concurrently with immune globulin, if necessary (e.g., for a traveler with anticipated exposures in <30 days), but if so should be administered at separate sites. Resulting levels of antibody are lower than when vaccine is given alone, albeit much higher than levels considered protective.

Although obviously desirable, combination vaccines that include hepatitis A antigens are not currently available. Unpublished studies among adults show that simultaneous administration with DTP, oral typhoid, and cholera (and some other rarely used vaccines) is just as safe and immunogenic as when given separately.

ADVERSE REACTIONS. No serious adverse reactions have been attributed to Havrix or VAQTA. The most common side effects are soreness at the injection site (56% for adults and 15% for children), and headache (14% and 4%, respectively). As with

any vaccine, temporally associated untoward events should be reported to the Vaccine Adverse Events Reporting System (VAERS) at 800/822-7967.

Neither vaccine should be given to persons who are allergic to alum; Havrix should not be given to those allergic to the preservative 2-phenoxyethanol. While the risk of these vaccinations for pregnant women has not been evaluated, as a killed vaccine it should be extremely low. As Hepatitis A is extremely difficult during pregnancy, vaccinators should use their best judgment. No special precautions are recommended for immunocompromised patients.

WHO SHOULD GET IT? The ACIP has recommended vaccination for the groups who are historically at increased risk for infections. The following groups are especially important in controlling the outbreak in San Francisco. (Vaccination is also appropriate for anyone who wishes to spend the money and obtain immunity.)

- **Men who have sex with men.** This group is the current focus of our outbreak. The number of cases in children and other adults showed a peak in late 1995 and early 1996. It has since dropped as the number of cases in gay men rose (Figure 2).
- **Users of illicit drugs.** Although modes of transmission are probably multifactorial in this group, vaccine is recommended for both injecting and non-injecting users.
- **Residents of communities with intermediate incidence rates.** Widespread vaccination is not typically feasible in these communities. Targeting subgroups with the highest rate of disease may be considered but the effectiveness of this effort has not been determined. In San Francisco, this strategy is more or less identical to immunizing gay and bisexual men.

The following groups are also appropriate for vaccination in San Francisco.

- **Travelers.** Immunization is recommended for persons ≥2 years old who travel to countries of high or intermediate endemicity of hepatitis A (basically, countries other than Canada, US, Australia, Japan, New Zealand, Western Europe). Although risk varies according to destination, length of stay, and extent of *joie de vivre* exposure, the risk of acquiring infection for US residents traveling abroad averages ~3 per 1000 travelers per month of stay. There is little correlation between degree of risk and number of hotel stars. Ideally, travelers should receive the first dose at least 4 weeks prior to departure from San Francisco; if traveling sooner, IG may be given concurrently at another site.
- **Persons with chronic liver disease.** While not at increased risk for hepatitis A per se, this group is more likely to develop fulminant hepatitis if infected. Those who are awaiting or have received liver transplants and are still susceptible should also be vaccinated.
- **Persons with clotting factor disorders.** Those who receive solvent-detergent-treated factors VIII and IX are at an elevated risk for hepatitis A.

Other ACIP Recommendations That Do Not Apply to San Francisco: Residents of selected communities with very high incidence rates. Catch-up vaccination of children ≥2 years old should be pursued until about 70% of the herd is immune. This refers to communities where outbreaks reach rates of 2000/100,000 and few if any cases occur in people older than 15 years. Ninety-five to ninety-seven percent of San Francisco cases are in patients 15 years or older, and we have never had a rate as high as 250/100,000.

OCCUPATIONALLY CHALLENGED. The only occupational groups shown to be at increased risk for infection are those who work with HAV-infected primates or HAV in the research lab. No studies support the routine vaccination of day care, health care or sewage workers, or those who work with the developmentally disabled.

Popular misconceptions notwithstanding, food handlers are not at increased risk for HAV infection. A relatively steady proportion of adults are food handlers by occupation. In a community like San Francisco with an outbreak centered in adults (<5% of cases are <15 years of age), the number of infected food handlers will increase as the number of cases increases. This will, in turn, be likely to increase the number of overall cases due to possible transmission by food handlers. So, although the ACIP does not recommend that food handlers be vaccinated, it may in fact be a viable strategy for communities like San Francisco. In any event, traditional recommendations about personal hygiene and proper food handling are important for reducing the transmission of hepatitis A and other pathogens spread by the fecal-oral route.

VFC HIGHLIGHTS. Hepatitis A vaccines are not currently part of the routine childhood immunization schedule and thus are not generally covered by VFC (Vaccines for Children) funds. However, coverage is authorized for Native American children.

EDITORIAL NOTE. The epidemiology of hepatitis A in San Francisco is different from that experienced by most communities, where children are the usual reservoir. In San Francisco the proportion of cases occurring in children goes down when we have an outbreak, indicating that children are not participants in the outbreak. A recent study found only 12 out of 334 households with a hepatitis A case included a child <10 years old. A total of 26 of 334 households had any members less than 20 years old.

Control of hepatitis A in San Francisco has always been problematic. Hepatitis A vaccine is an addition to the armamentorium for outbreak control, but not a silver bullet. Prior efforts using vaccine for outbreak control have been difficult to evaluate. There has been no clear-cut success in communities with rates from 50-200/100,000. The usual target population for immunization is children 2-10 years of age. This would not be a useful a strategy in our community. The CDC and the State will make VFC vaccines available for outbreak control, but they may not be used for anyone over the age of 18 years. This means that little free vaccine is available to our at-risk population, since it is primarily adults.

Gay and bisexual males are one of the groups recommended to get hepatitis A vaccine. In view of the current outbreak it is particularly important that they be immunized. The cost effectiveness of testing for immunity depends on the costs of the vaccine and screening test as well as the seroprevalence of immunity in the population to be immunized. Currently, there is limited information on seroprevalence in the gay male community. The Young Gay Men studies that have been done in SF have shown a seroprevalence of 27-28% among this group of men less than 25 years old. The largest group of gay men affected by the outbreak is between the ages of 25 and 35. Calculations performed by the Department of Public Health suggest that it is not cost effective to test for immunity either at the time of the first dose or before the first dose of vaccine. Further information on seroprevalence in gay men 25-40 might alter this conclusion.

The City has provided $200,000 to the Department of Public Health to purchase hepatitis A and B vaccines for use only in at-risk adults, primarily gay men. These vaccines will be available at the Health Department Health Centers on a drop-in basis. Private insurance and MediCal are accepted by the Centers. San Francisco residents who are members of the at-risk groups and have no insurance will be charged on a sliding scale based on income and family size.

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2. American Academy of Pediatrics. Prevention of hepatitis A infections: guidelines for use of hepatitis A vaccine and immune globulin. Pediatrics 1996;98:1207-1215.

This article was adapted from "CD Summary", Oregon Health Division, Center for Disease Prevention & Epidemiology, with editorial notes by the SFDPH Communicable Disease unit.

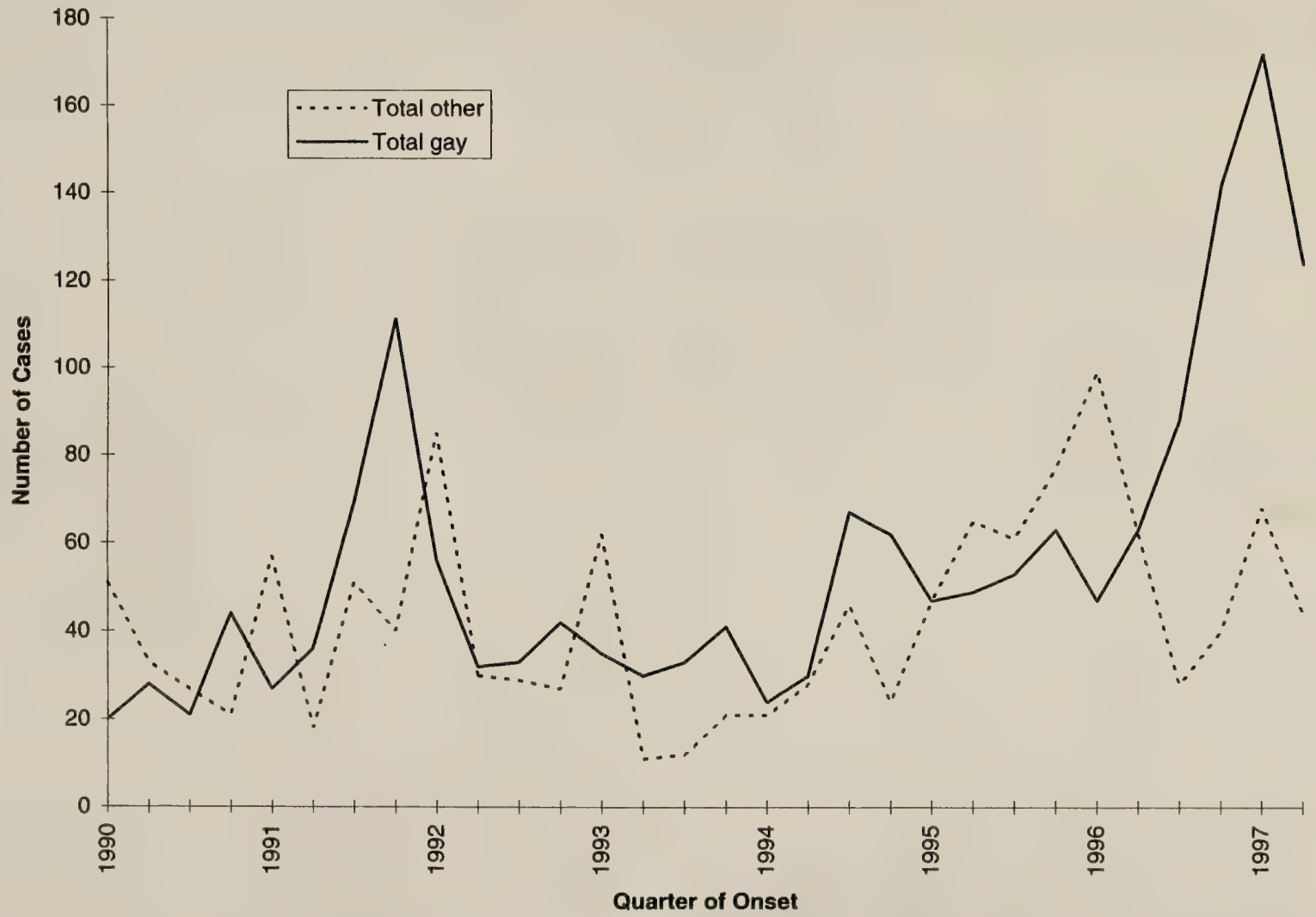
Table 1. Recommended Doses and Schedules for Hepatitis A Vaccines

Vaccine	Age (y)	Dose	Volume	# Doses	Schedule
Havrix	2-18	360 EL.U*	0.5 ml	3*	0, 1, 6-12 months*
	2-18	720 EL.U	0.5 ml	2	0, 6-12 months
	≥19	1440 EL.U	1.0 ml	2	0, 6-12 months
VAQTA	2-17	25 U	0.5 ml	2	0, 6-18 months
	≥18	50 U	1.0 ml	2	0, 6 months (sic)

*Havrix initially released in a formulation for a 3-dose pediatric schedule. This formulation is being discontinued.

FIGURE 1. HEPATITIS A SAN FRANCISCO 1960-1996
Age and Sex Adjusted Rates

FIGURE 2. HEPATITIS A CASES in GAY MEN and OTHERS by Quarter of Onset



CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

8 WEEK PERIOD ENDING 6/28/97

POPULATION 1990 CENSUS: 723,959

DISEASE	CASES REPORTED WEEKS 19 THROUGH 26			TOTAL CASES REPORTED TO DATE		
	1995	1996	1997	1995	1996	1997
AIDS	278	169	242	964	727	625
AMEBIASIS	38	34	65	138	90	154
CAMPYLOBACTERIOSIS	70	88	106	255	257	298
CHANCROID	0	0	0	0	0	0
CHLAMYDIAL INFECTIONS	216	0	54	889	590	237
GIARDIASIS	62	54	88	219	192	205
GONORRHEA	247	0	72	841	421	267
H. INFLUENZAE INVASIVE DISEASE	13	1	3	22	6	7
HEPATITIS Type A	70	85	109	202	286	420
HEPATITIS Type B	5	11	8	27	29	19
HEPATITIS Non A - Non B	0	0	0	0	0	0
LISTERIOSIS	6	2	0	13	6	0
LYME DISEASE	0	0	0	0	2	0
MALARIA	3	2	4	8	6	9
MEASLES	0	0	0	1	0	0
MENINGOCOCCAL INFECTIONS	11	1	3	17	4	18
PELVIC INFLAMMATORY DISEASE	8	0	4	40	4	11
PERTUSSIS	6	2	2	12	3	5
RUBELLA	1	0	0	3	0	0
SALMONELLOSIS	17	19	43	61	73	86
SHIGELLOSIS	49	44	26	132	160	94
SYPHILIS, Total	1	0	7	20	11	35
SYPHILIS, Primary & Secondary	1	0	2	10	5	7
TUBERCULOSIS	50	37	37	139	123	111
TYPHOID FEVER	1	1	0	4	4	1
TOTAL DEATHS REPORTED THIS PERIOD	1,098	936		3,854	3,373	
Deaths from pneumonia and influenza	98	106		401	478	
Medical Examiner cases	257	240		906	770	
Drug-related cases	61	39		167	129	
Cocaine-related cases	27	21		77	61	

CITY AND COUNTY OF SAN FRANCISCO
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1. Population Health Assessment

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Population Health Assessment at the San Francisco Department of Public Health (SFDPH)

Background. Assessment, along with policy development and assurance, is one of the core public health functions set forth in the 1988 Institute of Medicine (IOM) report on *The Future of Public Health*[1] and reaffirmed in the IOM's *Healthy Communities* report of 1996.[2] Assessment includes regularly monitoring data on communities' health status and needs, identifying adverse health outcomes and populations at risk, and analyzing the determinants of health needs.[3] In practice the assessment data available to many local health departments for coverage of the entire population of that jurisdiction has been limited to data from vital records (deaths and births) and reportable communicable diseases. Other available information provides an incomplete picture of the population's health status and needs, because it focuses on only those health conditions or groups for which categorical programs have been developed, and covers only those parts of the population served by those programs. Most of these public programs, including SFDPH programs, reach only a small (though significantly needy) portion of the whole population.

SFDPH is undertaking a more systematic approach to assessing the health of the whole population of San Francisco, and of the various communities comprising it. The Community Health Epidemiology Section (CHES) of SFDPH is taking the lead on this assessment effort for the Public Health Division.

The purpose of the population health information being developed is to help guide and enable decisions about health-related actions by the DPH as a whole, by its particular programs, and by individuals, groups and communities throughout San Francisco. Therefore we take a broad view of what information we should collect and monitor. We want to know about not only health outcomes, such as deaths by specific causes, but also about the preventable factors that contribute to those outcomes. To do this, information is being generated in the following areas:

- Health outcomes, including indicators covering violence, unintentional injury, acute conditions, chronic and disabling conditions, and mental health conditions.
- Contributing factors for health outcomes, including behavioral options and choices and factors in the physical environment and social environment.
- Access to and use of health services, including but not limited to DPH health services.

Many adverse health outcomes can be caused by more than one factor. For example, smoking, diet and lack of exercise each can contribute to heart disease. Conversely, many factors can contribute to more than one adverse outcome: smoking is a cause of heart disease, lung and other cancers, emphysema, etc. Our assessment will allow us to trace pathways between contributing factors and outcomes in both directions: forward from a given factor, like tobacco or high-fat diet, to the various health problems it contributes to, and backwards from a particular outcome, like ischemic heart disease or homicide, to the multiple factors contributing to it. Where possible, we will try to measure the extent to which specific factors contribute to the total amount of particular outcomes in San Francisco.

We will assess the factors' relative contribution to the overall burden of mortality and morbidity in the population, in terms of numbers of people affected, severity, duration, degree of prematurity at onset, cost, preventability, and so on. Together with information on which interventions are most efficient and feasible, this information will go into reports and be used for policy development, including establishing DPH action priorities.

Approaches to Analyzing San Francisco Mortality. The first part of the population assessment uses data on deaths to San Francisco residents that occurred between 1990 and 1995. A Population Health Assessment Work Group from Community Health Epidemiology, Community Disease Prevention & Health Promotion, and Planning & Policy, analyzed these San Francisco residents' deaths (n=48,424). Our method was derived from the World Health Organization (WHO) *Global Burden of Disease and Injury* (BODI) study[4], which developed an approach to measuring the burden of disease and injury across the diverse areas of the world. We modified the BODI cause of death (COD) categories (based on ICD-9 codes) for San Francisco, resulting in a list with four levels of specificity of causes. We used four general COD rubrics (communicable disease, maternal-perinatal condition, non-infectious diseases, injuries), with more specific causes listed under each of these general groupings. This "nested" approach to cause-of-death categories allows users to see the distribution of causes of death at the level of specificity best suited to their needs.

The mortality measures we use include counts of deaths, death rates, and Standardized Expected Years of Life Lost (SEYLLs). For SEYLLs, which are based on the WHO approach, each death contributes expected years of life lost according to the remaining life expectancy for someone of that person's sex and age.[5] The younger the person is at death, the more premature is the death and the greater the number of expected years of life lost. Thus SEYLLs for population groups are sums of the numbers of deaths, with each death weighted by degree of prematurity. Mortality report tables show both total *numbers* of SEYLLs by group and cause, and also *proportion* of the group's total SEYLLs by cause.

One advantage of using SEYLLs is that the more premature a death is, the greater the weight it is given. Also, unlike rates, the calculation of SEYLLs does not require regularly updated population estimates, which are not reliably available by area within the city. For this reason, age-adjusted rates are available by cause broken down by sex and race/ethnicity, but not by zip code.

Proportional SEYLLs for Leading Specific Causes of Death. Table 1A shows the proportional distribution of SEYLLs for the 20 leading causes of death for the overall population, along with the proportional distribution of SEYLLs for those causes by ethnicity. Table 1B and Table 1C show the same information by sex for males and females, respectively. For each group, the overall number of deaths, age-adjusted mortality rate, and total SEYLLs are shown at the top for reference and to allow a cross-sex-and-ethnic group comparison.[6]

The death rates show that within each sex, African-Americans have the highest mortality, followed by whites. Male death rates are much greater than those of females – about twice as high among African-Americans and Asians, and almost three times as high among whites and Latinos.

There is considerable overlap among the leading specific causes of death, for the whole population and each sex. Eight causes are among the top 10 on all three tables, and the top 13 causes overall (Table 1A) include the top 10 causes for both males (Table 1B) and females (Table 1C). The biggest contributor to premature mortality is *HIV/AIDS*, accounting for more than a quarter of the total for the whole population. It particularly affects male mortality, constituting over a third of total SEYLLs for males, and is especially high among white (46%), Latino (39%) and African-American (24%) males. No other single specific

cause of death comes close to resulting in this much premature death for any sex-and-ethnicity group. In fact, the total number of expected years of life lost due to *HIV/AIDS* among males is virtually equal to the total years lost among females for *all causes* during this period.

Ischemic heart disease (IHD), the leading cause of death for both sexes in the US and California, is the leading cause of SEYLLs among females in San Francisco, but second to *HIV/AIDS* among males. Among males, four of the top ten causes are types of injuries: *drug poisonings, suicides, homicides, and motor vehicle traffic. Homicide* is the second largest contributor to years of life lost among Latino males (7%) and third among African-American males (but at 9% constitutes a higher proportion). *Lung cancer* and *stroke* are other important causes across male ethnic groups, although *lung cancer* is less important among Latino men than among those of other ethnicities. For females, in addition to *IHD*, *stroke* and *lung* and *breast cancer* are leading contributors to mortality overall and across ethnic groups, although *lung cancer* is less important among Latina and Filipina women. Among women, *HIV/AIDS* is also responsible for a high proportion of SEYLLs among African-Americans and Latinas.

Determinants of Death. An analysis of 1990 US deaths showed that perhaps half were due to a small group of 9 underlying factors or determinants (also variously called *underlying causes, actual causes, contributing factors* or *risk factors*) identified below in Table 2. The numbers attributable to these determinants are comparable to those linked to the nation's leading disease causes of death (Table 3), as a comparison of Tables 2 and 3 shows.[7]

The right sides of Table 1A, 1B, and 1C shows the association of these 9 factors to the leading causes of premature death in San Francisco. It is immediately striking that every one of the top 10 causes for the whole population and for males and females (and almost all of the top 20) is associated with at least one of these factors, and some (e.g., *HIV, IHD, homicide*) with more than one. Effective interventions to influence the prevalence of these factors could therefore be expected to have a major impact on the biggest killers in San Francisco.

Where possible we will develop quantitative estimates of the share of deaths attributable to these factors. Table 4 shows an example for tobacco and alcohol, for which attributable fractions have been fairly well established and widely used.[8] Table 4 applies these (shown in "attrib. %" columns) to SEYLLs and numbers of deaths in San Francisco for the specific causes of death for which tobacco or alcohol have been identified as risk factors. The table shows the number of premature years of life lost and of deaths that can be attributed to tobacco and alcohol respectively, and to both,[9] and the numbers that could eventually be saved by reducing exposure to them by 20%. Despite the inflated SEYLL and death toll due to AIDS (which reduces the *proportion* of deaths due to all other causes), tobacco alone is still responsible for about one-seventh (14%) of all deaths, and a tenth of all years of life lost. Tobacco and alcohol together account for about a fifth of all deaths and years of years of life lost (20% and 18%, respectively). Reducing tobacco and alcohol exposure in the population by 20% could be expected to reduce the total of premature deaths and years of life lost by 4%.

These numbers must be considered rough estimates. They have been rounded off in Table 4 to emphasize their approximate nature. Nevertheless, they do give an idea of the relative contribution of these determinants to overall mortality in San Francisco.

Discussion. The tasks of assessing health conditions of populations and communities are challenging. Data on health outcomes covering the whole population are limited and incomplete; data on the distribution of important factors contributing to health outcomes are even more so. Lack of information on the distribution of contributing factors limits our ability to quantify the share of deaths, injuries or illnesses attributable to them. To develop community health profiles, we will need to blend existing and new practices, the views of residents and service providers, and available health, risk and population data by geographic area, in order to

define San Francisco communities and population groupings and what we can say about their health conditions.

We also know that broad social conditions, especially poverty and lower socio-economic position, adversely influence the rates of many health outcomes, including almost all of the leading causes of death. This is so at least in part because poverty affects the distribution of exposure to many determinants or risk factors as well as access to and use of health care. Therefore, just as modifying the extent of a particular factor may improve a number of health outcomes, improving a community's poor profile for exposure to multiple risk factors can disproportionately reduce that community's excess risk from many causes. We need to look as far up the causal pathways leading to poor health outcomes as possible in order to identify the broadest and earliest preventive interventions possible aimed at reducing community exposures to multiple factors contributing to ill health. Communities, providers and DPH can then contribute to developing interventions to change the disproportionate distribution of multiple key determinants in vulnerable communities.

The development and application of attribution tables for various population groups and determinants can provide a basis for decisions and actions on prevention priorities (and expected results), by DPH, communities, provider groups, or any combination of interested parties. That is the ultimate aim of the development of assessment data: to inform, and to help guide actions to promote health and prevent disease and injury in the population and communities of San Francisco

The mortality report will be available in May 1998. The first version of an overall population assessment report, expected toward the end of 1998, will cover deaths, reportable communicable diseases, and births, population size, distribution, and social and environmental conditions, and some data on use of services, including hospitalizations for injuries and acute and chronic conditions. However, we view development of community profile and population assessment data as a process that will continue over time, with modifications occurring as experience with and participation in the process grows. In particular, we expect both the data content and the specific populations being reported on to change with increasing participation of those populations as both producers and users of the data. We invite everybody, throughout the Department of Public Health, the provider and services communities, academic researchers and the public at large, to contribute their ideas to the process (see box next page).

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References

[1] Institute of Medicine. *The Future of Public Health*. Washington, DC: National Academy Press, 1988.
[2] Stato MA, C Abel, A Dievler, eds. *Healthy Communities: New Partnerships for the Future of Public Health*. Washington, DC: National Academy Press, 1996.
[3] *Healthy Communities*, p. 44.
[4] Murray CJL and AD Lopez, ed. *Global Burden of Disease*, V. I. Cambridge, MA: Harvard School of Public Health (for the World Health Organization.), Harvard University Press, 1996.
[5] The standard for life expectancy we used for S.F. comes from the standard life table used by WHO for a population with a high life expectancy.
[6] Note that it is not appropriate to compare the actual proportion of SEYLLs for a given cause across groups, because that proportion is a function of the overall mortality experience (including age distribution) of each group. However, comparing the relative ranking of particular causes across groups can contribute to a qualitative sense of how important those causes are among others across the population.
[7] From McGinnis JM, Foege WH. *Actual causes of death in the United States*. *JAMA* 1993; 270: 2207-12. Note that we use more specific cause of death rubrics than McGinnis & Foege use to rank as leading causes of death (e.g., "ischemic heart disease" rather than "heart disease", "lung cancer" or "breast cancer" rather than "cancer", "falls [unintentional]" rather than "accidents", etc.) because we want to relate these causes to prevention actions, which is more feasible for specific than for general diagnosis categories.
[8] Rice DP, Max w. *The Cost of Smoking in California*, 1989. Sacramento: Ca. Dept. of Health Services, 1992; DHHS. *Eighth Special Report to the US Congress on Alcohol and Health*. Rockville, MD: National Institute on Alcohol Abuse & Alcoholism, 1993.
[9] When both tobacco and alcohol are determinants of a specific cause, the number of deaths attributable to one factor are removed from the population that the second factor's attributable percentage is applied to, to avoid double-attributing of deaths. This "cascade method" was used in RW Amler and HB Dull. *Closing the Gap*. NY: Oxford Univ. Press, 1987, p. 181.

If you have ideas...
about data, indicators about health outcomes, risk factors or determinants, access to or use of health care; vulnerable populations, community health indicators, or SF population or community data, please contact Randy Reiter at:
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Table 1A. Leading Causes of Death by Ethnicity, San Francisco 1990-95

		MORTALITY MEASURE						CONTRIBUTING FACTORS								
			Race/Ethnicity Group													
		TOTAL	White	Latino	Af-Amer	Asian/Pac I	Filipino	*Tobacco*	*Diet, exercise*	*Alcohol*	*Infect. agents*	*Envirn. exposure*	*Guns*	*Unsafe sex*	*Motor vehicles*	*Illicit drugs*
	Overall Mortality															
	Number of Deaths	48,424	30,492	3,412	6,279	6,356	1,591									
	Age-Adjusted Death Rate*	605.5	725.6	407.3	973.0	340.3	*									
	Total SEYLL	1,068,209	645,685	97,827	169,123	115,542	30,676									
	Average SEYLL	22.1	21.2	28.7	26.9	18.2	19.3									
	Percent of SEYLL	100%	100%	100.0%	100.0%	100.0%	100.0%									
Rank	**Specific Cause of Death**	*%*	*%*	*%*	*%*	*%*	*%*									
1	HIV infection/AIDS	28.2	35.4	31.1	18.4	4.1	8.8				●●			●●		●
2	Ischemic heart disease (IHD)	13.2	13.1	8.3	13.3	16.3	20.6	●	●	**						
3	Lung cancer	4.2	4.1	1.5	4.5	7.1	3.4	●●	○			●				
4	Cerebrovascular (Stroke)	3.9	3.0	2.9	4.2	7.7	7.7	●	●	○**						○
5	Drug poisoning (unintentional)	3.1	3.2	3.7	4.3	0.6	0.6			○						●●
6	Suicide	3.1	3.5	2.9	1.8	3.5	1.2			●			●			○
7	Homicide	2.7	0.9	6.1	7.5	2.7	3.1			●			●●			●
8	Lower resp. infection (Pneumonia)	2.6	2.5	2.0	2.5	3.6	2.5	●		○	●●	○				
9	Chronic liver & cirrhosis	2.2	2.3	3.7	2.1	0.8	1.0			●●	●					○
10	Chronic obstr. pulm. disease (COPD)	1.8	1.9	0.4	1.4	2.7	2.0	●●				○				
11	Motor vehicle-traffic	1.7	1.2	3.0	1.9	3.0	3.3			●					●●	○
12	Colorectal cancer	1.6	1.4	1.0	1.4	2.9	2.3	○	●	○						
13	Breast cancer	1.4	1.3	1.0	1.6	2.1	2.2		○	●						
14	Alcohol use (psychiatric dx)	1.2	1.4	2.0	1.0	0.1	-			●●						
15	Lymphomas/multiple myeloma	1.2	1.2	1.4	0.7	1.5	1.3				○					
16	Inflam/infect/cardiomyopathy	1.1	0.9	0.6	2.1	1.2	1.6		○	●	●					
17	Diabetes mellitus	1.0	0.7	1.1	1.9	1.5	1.9		●●							
18	Congenital anomalies	0.9	0.5	2.0	0.8	1.6	3.3				○	○				
19	Liver cancer	0.8	0.4	0.6	0.6	3.2	2.1			●	●					
20	Falls (unintentional)	0.7	0.7	1.6	0.4	0.6	0.3		○	●						○

* For age-adjusted rates, "Asian/Pac. I." includes Filipinos & other. Rates adjusted to 1940 US standard million population.

SEYLL = Standardized Expected Years of Life Lost. % = % of group (column) SEYLL total.

●● = major (half or more) ** = protective (in low doses)

● = important ○ = minor or suspected

Table 1B. Leading Causes of Death Among Males, by Ethnicity, San Francisco 1990-95

		MORTALITY MEASURE						CONTRIBUTING FACTORS								
			Race/Ethnicity Group													
		TOTAL	White	Latino	Af-Amer	Asian/Pac I	Filipino	*Tobacco*	*Diet, exercise*	*Alcohol*	*Infect. agents*	*Envirn. exposure*	*Guns*	*Unsafe sex*	*Motor vehicles*	*Illicit drugs*
	Overall Mortality															
	Number of Deaths	28613	17,972	2,195	3,739	3,476	1,020									
	Age-Adjusted Death Rate*	882.5	1,058.3	619.9	1,359.9	464.6	*									
	Total SEYLL	776759	489,287	75,741	113,634	71,031	19,801									
	Average SEYLL	27.1	27.2	34.5	30.4	20.4	19.4									
	Percent of SEYLL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%									
Rank	**Specific Cause of Death**	%	%	%	%	%	%									
1	HIV infection/AIDS	37.7	46.2	38.7	24.1	6.6	12.4				●●			●●		●
2	Ischemic heart disease (IHD)	11.3	10.7	6.5	11.8	16.9	22.3	●	●	**						
3	Lung cancer	3.6	3.2	1.2	4.3	7.7	4.3	●●	○			●				
4	Drug poisoning (unintentional)	3.4	3.5	4.3	4.6	1.0	0.6			●						●●
5	Suicide	3.3	3.7	3.4	2.1	3.7	1.2			●			●			○
6	Homicide	3.1	0.9	7.1	9.3	3.8	3.7			●			●●			●
7	Cerebrovascular (Stroke)	2.6	1.8	2.3	3.0	6.0	6.6	●	●	○**						○
8	Chronic liver & cirrhosis	2.3	2.3	3.8	2.1	0.9	0.9			●●	●					○
9	Lower resp. infection (Pneumonia)	2.2	2.1	1.8	2.4	3.2	2.2	●		○	●●	○				
10	Motor vehicle-traffic	1.7	1.1	3.2	2.2	3.0	4.1			●					●●	○
11	Chronic obstr. pulm. disease (COPD)	1.4	1.3	0.3	1.2	3.4	2.2	●●				○				
12	Alcohol use (psychiatric dx)	1.4	1.5	2.4	1.4	0.2	-			●●						
13	Colorectal cancer	1.2	1.1	0.7	1.1	2.4	1.9	○	●	○						
14	Inflam/infect/cardiomyopathy	1.1	0.8	0.5	2.1	1.3	2.0		○	●	●					
15	Lymphomas/multiple myeloma	1.0	1.0	1.3	0.5	1.5	0.8				○					
16	Prostate cancer	0.9	0.9	0.5	1.6	0.7	1.1		○	○				○		
17	Liver cancer	0.8	0.4	0.7	0.6	4.0	2.0			●	●					
18	Diabetes mellitus	0.8	0.5	0.7	1.4	1.2	1.7		●●							
19	Congenital anomalies	0.7	0.3	1.4	0.7	0.8	1.2				○	○				○
20	Falls (unintentional)	0.7	0.6	1.7	0.4	0.6	0.3		○	●						○

* For age-adjusted rates, "Asian/Pac. I." includes Filipinos & other. Rates adjusted to 1940 US standard million population. ●● = major (half or more) ** = protective (in low doses)

SEYLL = Standardized Expected Years of Life Lost. % = % of group (column) SEYLL total. ● = important ○ = minor or suspected

Table 1C. Leading Causes of Death Among Females, by Ethnicity, San Francisco 1990-95

		MORTALITY MEASURE						CONTRIBUTING FACTORS								
			Race/Ethnicity Group													
		TOTAL	White	Latino	Af-Amer	Asian/Pac I	Filipino	*Tobacco*	*Diet, exercise*	*Alcohol*	*Infect. agents*	*Envirn. exposure*	*Guns*	*Unsafe sex*	*Motor vehicles*	*Illicit drugs*
	Overall Mortality															
	Number of Deaths	19,811	12,520	1,217	2,540	2,880	571									
	Age-Adjusted Death Rate*	340.5	373.1	210.5	629.3	237.8	*									
	Total SEYLL	291,450	156,398	22,086	55,490	44,511	10,875									
	Average SEYLL	14.7	12.5	18.1	21.8	15.5	19.0									
	Percent of SEYLL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%									
Rank	**Specific Cause of Death**	*%*	*%*	*%*	*%*	*%*	*%*									
1	Ischemic heart disease (IHD)	18.3	20.7	14.4	16.2	15.2	17.4	●	●	**						
2	Cerebrovascular (Stroke)	7.3	6.9	4.9	6.7	10.3	9.9	●	●	○**						○
3	Lung cancer	5.9	7.0	2.8	5.0	6.2	1.9	●●	○			●				
4	Breast cancer	5.2	5.4	4.3	4.9	5.5	6.3		○	●						
5	Lower resp. infection (Pneumonia)	3.6	4.0	2.9	2.6	4.1	3.0	●		○	●●	○				
6	HIV infection/AIDS	2.8	1.8	4.9	6.9	0.2	2.1				●●			●●		●
7	Colorectal cancer	2.7	2.7	2.2	2.2	3.8	3.0	○	●	○						
8	Chronic obstr. pulm. disease (COPD)	2.7	3.6	0.9	1.7	1.7	1.5	●●				○				
9	Suicide	2.3	2.8	1.3	1.0	3.1	1.0			●			●			○
10	Drug poisoning (unintentional)	2.2	2.4	1.8	3.8	0.1	0.4			●						●●
11	Chronic liver & cirrhosis	2.0	2.1	3.3	2.0	0.7	1.2			●●	●					○
12	Motor vehicle-traffic	1.8	1.5	2.3	1.4	3.0	2.0			●					●●	○
13	Diabetes mellitus	1.7	1.1	2.6	2.7	2.0	2.5		●●							
14	Lymphomas/multiple myeloma	1.6	1.8	1.7	1.2	1.5	2.3				○					
15	Ovarian cancer	1.6	2.0	1.8	0.7	1.3	1.3									
16	Homicide	1.6	0.8	2.8	3.8	0.9	2.0			●			●●			●
17	Congenital anomalies	1.5	1.2	3.3	0.8	1.8	2.8				○	○				
18	Inflam/infect/cardiomyopathy	1.2	1.1	1.1	1.9	1.1	0.8		○	●	●					
19	Pancreas cancer	1.2	1.3	0.7	1.4	1.1	1.1	●								
20	Leukemia	1.0	0.8	1.5	0.5	1.7	1.7									

* For age-adjusted rates, "Asian/Pac. I." includes Filipinos & other. Rates adjusted to 1940 US standard million population.

SEYLL = Standardized Expected Years of Life Lost. % = % of group (column) SEYLL total.

●● = major (half or more) ** = protective (in low doses)

● = important ○ = minor or suspected

Table 2. Determinants of death, US, 1990

Determinant	Deaths
Tobacco	400,000
Diet/activity	300,000
Alcohol	100,000
Microbial agents	90,000
Toxic agents	60,000
Firearms	35,000
Sexual behavior	30,000
Motor vehicles	25,000
Illicit use of drugs	20,000

Source: McGinnis & Foege, 1993

Table 3. Leading causes of death, US, 1990

Cause	Deaths
Heart disease	720,000
Cancer	505,000
Stroke	144,000
Accidents	92,000
Chronic obstructive pulmonary disease	87,000
Pneumonia & influenza	80,000
Diabetes mellitus	48,000
Suicide	31,000
Chronic liver disease & cirrhosis	26,000
HIV infection	25,000

Source: McGinnis & Foege, 1993.

Table 4. Deaths Attributable to Tobacco and Alcohol, San Francisco 1990-95

	ALL DEATHS		TOBACCO-RELATED			ALCOHOL-RELATED			COMBINED			-20% RISK	
SPECIFIC CAUSE OF DEATH	Deaths	SEYLL	Attrib. %	Deaths	SEYLL	Attrib. %	Deaths	SEYLL*	Attrib. %	Deaths	SEYLL	Deaths	SEYLL
Ischemic heart disease (IHD)	11,010	141,184	20%	2,200	28,200				20%	2,200	28,200	440	5,650
Lung cancer	2,455	45,351	82%	2,000	37,200				82%	2,000	37,200	400	7,450
Cerebrovascular disease (Stroke)	3,374	41,182	16%	540	6,589	7%	180	2,250	21%	720	8,850	150	1,850
Poisonings	760	34,128				35%	270	11,900	35%	270	11,950	50	2,400
Suicide	845	32,729				28%	240	9,150	28%	240	9,150	45	1,850
Homicide	557	28,571				46%	260	13,100	46%	260	13,100	50	2,650
Lower resp infection (Pneumonia)	2,303	27,634	25%	580	6,900	5%	90	1,050	29%	660	7,950	140	1,650
Cirrhosis	771	23,871				90%	690	21,500	90%	690	21,500	140	4,300
COPD	1,391	18,894	80%	1,100	15,100				80%	1,100	15,100	220	3,000
Motor vehicle traffic	438	18,444				42%	180	7,750	42%	180	7,750	35	1,550
Alcohol use (psychiatric dx)	384	13,106				100%	380	13,100	100%	380	13,100	80	2,600
Diabetes mellitis	633	10,910				5%	30	550	5%	30	550	5	110
Liver cancer	410	8,468				15%	60	1,250	15%	60	1,250	10	250
Falls	323	7,445				35%	110	2,600	35%	110	2,600	25	520
Pancreas cancer	470	7,205	25%	120	1,800				25%	120	1,800	25	360
Sudden infant death syndrome (SIDS)	86	7,012	9%	10	630				9%	10	630	2	130
Stomach cancer	375	6,339				20%	75	1,250	20%	80	1,250	15	250
Mouth cancers	204	4,419	75%	150	3,300	50%	25	560	86%	180	3,850	45	470
Esophageal cancer	214	4,189	74%	160	3,100	50%	25	550	86%	190	3,650	50	450
Asthma	150	3,473	22%	35	760				22%	35	760	5	150
Drowning	71	3,164				38%	25	1,200	38%	25	1,200	5	240
Bladder cancer	180	2,412	40%	70	970				40%	70	970	15	190
Hypertension	167	2,064				8%	15	160	8%	15	160	3	30
Fire/burns	54	1,889	17%	10	320	45%	20	710	55%	30	1,050	5	170
Tuberculosis	63	1,388	26%	15	360	25%	10	260	45%	30	620	5	140
TOTAL, tobacco & alcohol-related	27,688	495,471		7,000	105,500		2,700	89,000		9,700	194,500	2,000	38,400
TOTAL, all causes	48,424	1,068,209		7,000	105,500		2,700	89,000		9,700	194,500	2,000	38,400
Percent of all mortality	57%	46%		14%	10%		6%	8%		20%	18%	4%	4%

* For more than one risk factor, attributable risk calculated by cascade method (see Closing the Gap, 1987, p. 181)

Calculated numbers (deaths & SEYLLs) are rounded as follows: <50, nearest 5; 50-1,000, nearest 10; 1,000s, nearest 50; 10,000s, nearest 100; >100,000, nearest 500. All rounding done after additions of column totals.

Selected Health Status Indicators for San Francisco and California, 1993-95

Indicator	San Francisco	SF 95% C.I. (LCI, UCI)	California	Ca 95% C.I. (LCI, UCI)	SF Rank (58 counties)	SF compared to Ca*	Healthy People 2000	HP 2000 objective met
Mortality (Age-adjusted rates)								
All causes	576.7	(564.0, 589.4)	453.9	(452.0, 455.7)	56	worse	--	
CHD	97.6	(93.1, 107.2)	101.3	(100.4, 102.1)	42		100.0	SF
Stroke	27.7	(25.4, 30.0)	25.7	(25.3, 26.1)	44		20.0	
All cancers	116.0	(110.2, 121.7)	116.2	(115.2, 117.2)	29		130.0	SF, Ca
Lung cancer	29.9	(27.0, 32.9)	32.2	(31.6, 32.7)	11**		42.0	SF, Ca
Breast cancer	17.2	(14.1, 20.4)	19.7	(19.1, 20.3)	17**		20.6	SF, Ca
Unintentional injuries	33.6	(30.0, 37.3)	26.6	(26.1, 27.1)	27	worse	29.3	Ca
Motor vehicle crashes	8.0	(6.1, 10.0)	13.2	(12.8, 13.6)	4**	better	14.2	SF, Ca
Homicide	13.4	(10.6, 16.3)	12.7	(12.3, 13.1)	51**		7.2	
Suicide	16.0	(13.4, 18.6)	10.9	(10.5, 11.2)	45**	worse	10.5	
Drug-related deaths	20.4	(17.4, 23.3)	7.9	(7.6, 8.1)	58**	worse	3.0	
Firearm injury deaths	14.5	(11.7, 17.4)	16.3	(15.9, 16.7)	31**		11.6	
Incidence (Crude rates)								
AIDS	232.7	(221.8, 243.6)	29.4	(28.8, 30.0)	58**	worse	39.2	Ca
TB	40.13	(35.6, 44.7)	15.08	(14.7, 15.5)	58**	worse	3.5	
Syphilis	6.07	(4.3, 7.8)	2.53	(2.4, 2.7)	57**	worse	4.0	Ca
Maternal & Child Health								
Infant mortality rate (per 1,000 live births)	7.0	(5.3, 8.7)	7.2	(6.9, 7.4)	32**		7.0	SF
Low birthweight (per 1,000 live births)	6.9	(6.4, 7.4)	6.1	(6.0, 6.1)	54	worse	5.0	
Late prenatal care (after 1st trimester)	17.0%	(16.2%, 17.8%)	22.1%	(22.0%, 22.2%)	11	better	10.0%	
Inadequate prenatal care (Kessner index)	24.4%	(23.5%, 25.3%)	32.6%	(32.5%, 32.7%)	10	better	--	
% of births to teens (15-19 years old)	7.4%	(6.8%, 7.9%)	11.9%	(11.9%, 12.0%)	4	better	--	

* Comparison only shown where San Francisco measure is significantly different from California's.

** County rankings based on measures for which more than 20% of counties (12 or more) had unstable or unreliable rates.

Data are for 1993-1995 except infant mortality, which is based on 1991-93 birth cohorts.

C.I. = confidence interval; LCI = lower confidence interval; UCI = upper confidence interval

Source: *County Health Status Profiles 1997*, California Dept. of Health Services & California Conference of Local Health Officers

CITY AND COUNTY OF SAN FRANCISCO

REPORTED CASES OF CERTAIN NOTIFIABLE DISEASES

9 WEEK PERIOD ENDING 01/03/1998

DISEASE	CASES REPORTED WEEKS 45 THROUGH 53			TOTAL CASES REPORTED TO DATE		
	1996	1997	1998	1996	1997	1998
AIDS	187	170	0	1399	1207	0
Amebiasis	24	39	0	170	296	0
Campylobacteriosis	121	79	0	596	584	0
Chancroid	0	0	0	0	0	0
Chlamydial Infections	94	193	0	1101	549	0
Giardiasis	57	64	0	398	384	0
Gonorrhea	102	171	0	1179	647	0
H. Influenza Invasive Disease	1	1	0	11	13	0
Hepatitis Type A	120	45	0	577	599	0
Hepatitis Type B	18	21	0	58	57	0
Hepatitis Non A - Non B	0	0	0	0	0	0
Listeriosis	1	2	0	9	5	0
Lyme Disease	1	0	0	4	1	0
Malaria	2	2	0	15	15	0
Measles	0	0	0	2	1	0
Meningococcal Infections	3	0	0	10	20	0
Pelvic Inflammatory Disease	7	3	0	37	20	0
Pertussis	0	1	0	11	10	0
Rubella	0	0	0	0	0	0
Salmonellosis	30	41	0	182	216	0
Shigellosis	23	33	0	256	211	0
Syphilis, Total	16	21	0	82	80	0
Syphilis, Primary & Secondary	4	6	0	17	13	0
Tuberculosis	48	42	0	259	241	0
Typhoid Fever	0	2	0	5	4	0
TOTAL DEATHS REPORTED THIS PERIOD	**1078**	**1181**		**7234**	**6663**	
Deaths - pheumonia & influenza	156	122		818	819	
Medical Examiner cases	257	314		1711	1652	
Drug-related cases	49	40		347	256	
Cocaine-related cases	20	18		149	117	

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